Childhood Education

THE MAGAZINE FOR TEACHERS OF YOUNG CHILDREN

FRANCES MAYFARTH, Editor

Published for the purpose of stimulating thinking rather than advocating fixed practice.

Volume XV Number 8

Next Month—

- "Planning Leisure-time Activities" is the theme for the May issue. Anne T. Eaton of Lincoln School, New York City, has prepared a manuscript on "The Story Hour"; Emily J. Lloyd, St. Charles, Illinois, "A'Camping We Will Go"; Marion Hawes of the Enoch Pratt Library in Baltimore, "The Librarian and Teacher Cooperate in Stimulating Leisure-time Activities for Children," and Josette Frank of the Child Study Association, New York City, an article on summer play schools, clubs, and hobby shows.
- Grace Blaisdell Golden of the Children's Museum of Indianapolis tells what a museum has to offer for leisure-time activities.
- The May issue will be delayed so that convention reports may be included, and will not reach subscribers until after May tenth.—*The Editor.*

Contents for April, 1939

		Page
EDITORIALS—PROVIDING SIGNIFICANT EXPERIENCES IN SCIENCE	*Paul R. Hanna*	339
—SCIENCE AND THE THREE Cs	*Margaret M. Short*	340
VALUES OF LABORATORY EXPERIENCES	*S. R. Slavson*	341
TRIPS IN AN EXPERIENCE CURRICULUM	*Nelle Morris*	347
AMONG THE YOUNGEST SCIENTISTS	*Gertrude E. Chittenden*	351
THE CHILD EXPLORES HIS WORLD	*Catharine Kneeland*	357
VISUAL EDUCATION IN MODERN EDUCATION	*Gardner L. Hart*	363
LET'S EXPERIMENT	*Lofton V. Burge*	367
A GOLDEN ANNIVERSARY		370
ACROSS THE EDITOR'S DESK		371
BOOK REVIEWS	*Alice Temple*	373
BOOKS FOR CHILDREN	*May Hill Arbuthnot*	375
AMONG THE MAGAZINES	*Ruth Bristol*	376
RESEARCH ABSTRACTS	*John A. Hockett*	377
NEWS HERE AND THERE	*Mary E. Leeper*	379

Published Monthly, September to May, by the

ASSOCIATION FOR CHILDHOOD EDUCATION

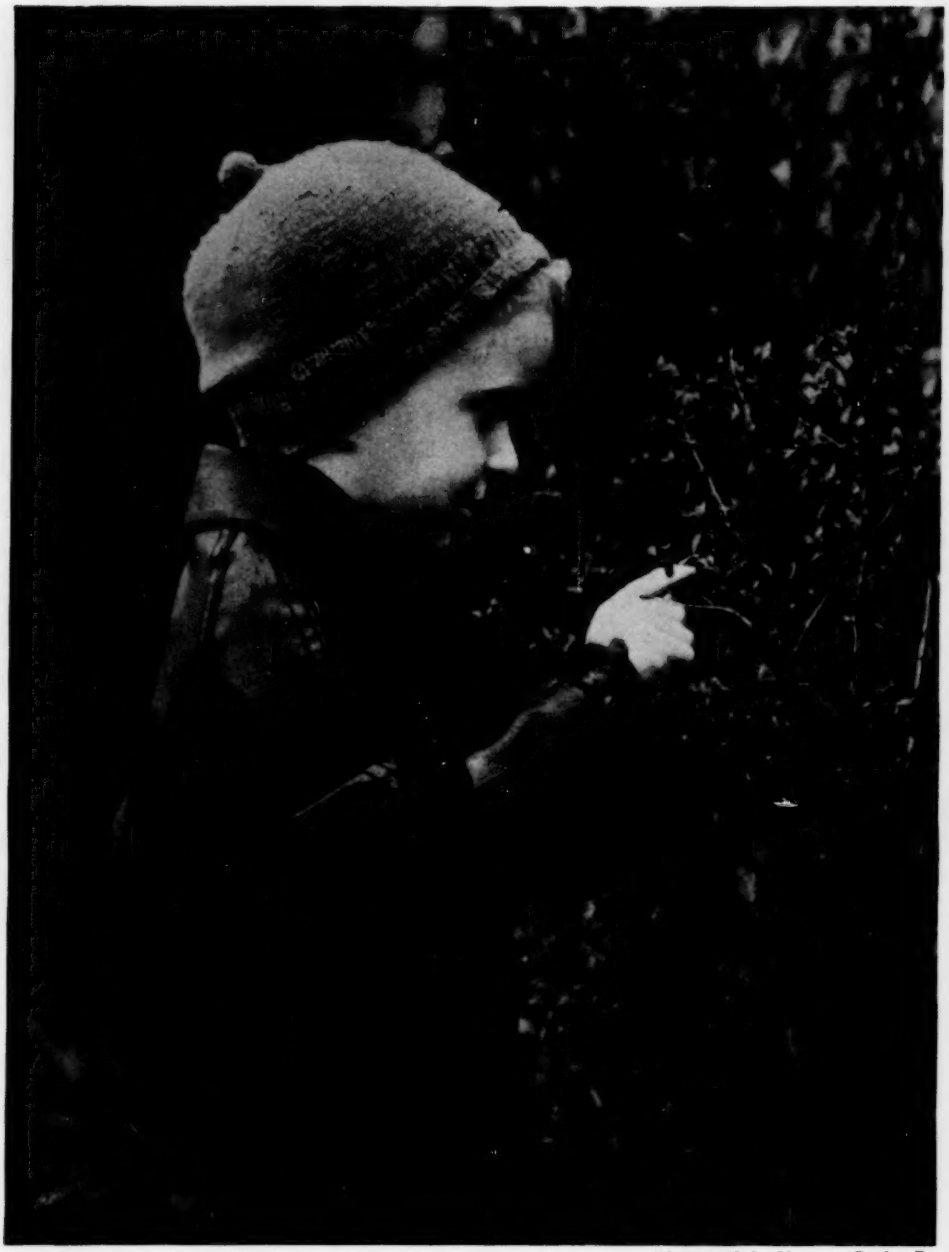
With the Cooperation of the National Association for Nursery Education

1201 Sixteenth Street N.W., Washington, D.C.

Send orders and subscriptions to 1201 Sixteenth St. N.W., Washington, D.C.

Subscription price $2.50. A.C.E. membership and subscription $3.00. Foreign postage 50 cents. Single copies 30 cents. Entered as second class matter at the post office at Washington, D.C., under the act of March 3, 1879. Additional entry at Menasha, Wisconsin. Copyright, 1939, Association for Childhood Education.

REPRINTS Orders for reprints from this issue must be received by the George Banta Publishing Company, Menasha, Wisconsin, by the 10th of the month of issue. Carefully indicate quantity, shipping instructions, etc.



Photograph by Margaret Bonine Fox

Bugs? No, buds. George has made a new acquaintance in the form of a leaf bud and has added one more word to his vocabulary.

Editorial Comment

Providing Significant Experiences in Science

THE EDUCATIONAL drought seems to be broken. For decades the school has depended almost exclusively upon verbalization as the method for teaching children about themselves and the world in which they live. Children in the past sat for hours on end in barren classrooms and *listened to* the teacher *talk about* the world of science or about the world of human relations. Or the children *read out of books* the abstractions which adults had written to introduce the young to the wonders of this world. It was the exceptional teacher who took into the classroom the living plants and animals about which she and the books were talking and allowed children to handle and observe them. And it was even rarer for the teacher to take the class out to the great world itself to observe it and to take part in its activities. School, traditionally, has been studying *about* life from *books* rather than giving children opportunities to know their environment through their sensory organs of touch, sight, sound, smell, and taste.

BUT THE barrenness of that season is changing. Now it is the accepted classroom procedure for teachers to provide a variety of significant experiences for their pupils. As clearly described in the pages of this issue of *Childhood Education* children in modern schools actually manipulate apparatus in carrying out exciting and instructive experiments in electricity, chemistry, light diffusion, effect of color on light absorption, the effect of lenses on various eye defects, and many similar experiments. Groups of children emerge from the schoolroom to observe a house under construction in the neighborhood, to count the variety of safety devices in the vicinity, or to visit a food shop to find out where the grocer gets the many kinds of foods he keeps in stock. Modern children handle plants and animals as these grow and live in their native habitat. Or again, they study the wind by listening to it in tree tops and by seeing it play over water surfaces, and by observing it turn windmills, or by feeling its strength as they fly kites in it.

Through rich, varied, and direct contacts with life the modern child is given opportunities for growth which most of us lacked when we went to school. And equally important, books (and other types of experiences recorded by others) can now be used to good advantage by children who have first-hand experiences. Books become tools for extending and enriching ideas gained through significant first-hand experiences in social, physical, and natural sciences.—*Paul R. Hanna, professor of education, Stanford University.*

Science and the Three Cs

SCIENCE offers many possibilities for inculcating the highest ideals of character, conduct, and citizenship. Consider the school garden. When boys and girls refrain from trampling on garden plots planned, dug, and planted by others, science has instilled in them a sense of fair play. When the need for watering, weeding, and mulching the slow growing seeds keeps these boys and girls bent and busy, science is developing that stamina and perseverance so necessary to success in most undertakings. When the fresh young vegetables in the unfenced school gardens are allowed to grow until the youthful farmer wishes to pick them himself, science has been a means of teaching respect for other people's property. When the young planter begins to take care of his tools, science has helped him grow in orderliness and responsibility.

Boys and girls working together in a garden under a skillful leader imbibe much they know not of. Sharing a limited number of garden tools, assisting the less robust worker, and adjusting themselves to small areas develop unselfishness and consideration for others. Thus, through learning to work together in harmony, children develop sensitivities useful throughout life.

During the winter when trees, shrubs, and ground are bare and frozen, the small winter creatures are remembered daily. Crumbs and apple cores are put in sheltered places. Seeds, suet, nuts, and berries are placed where the birds and squirrels soon find them. The four kittens are often treated to extra milk bought by the pooling of pennies intended for the purchase of candy. Through such thoughtfulness and kindness to animals and birds, may we not hope to guide children to consideration of their human brothers?

KNOWLEDGE and familiarity with the common summer and winter birds and plants supply a hobby which may later prove of much value. The study of stones and rocks arouses desirable interests and stimulates the proper use of leisure. The introduction to electricity in the grades not only satisfies the child's curiosity, but frequently leads to more detailed study which may become the basis of a vocation. To get more information and to understand better a particular phase of a science interest requires study of books, pictures, and models. Here the three Rs come into their own.

The study of science in the elementary grades—not as an end in itself—can become an important medium for further developing the three Cs of character, conduct, and citizenship.—*Margaret M. Short, principal of the Keene School, Washington, D.C.*

Values of Laboratory Experiences

S. R. SLAVSON

How a "free" science laboratory can meet some of the basic personality needs of children and stimulate their "intellectual aggressiveness" is described by Mr. Slavson, professor of education, New York University.

THE value of the laboratory to the child lies in the fact that it can meet some of the basic needs of his personality. Modern education is based upon the fact that the child is an action-mechanism and not a memorizing contraption. In order that his powers may be activated and that he may develop purpose and interest, he must be engaged in activities. Those activities are of value in education which are suited to the child's level of development and to his individual predilections. If this is not the case, they simply fail in their objective to arouse interest and to strengthen personality. They are performed under duress or fear; become boring, or arouse submissiveness, resentment or hostility, as the case may be. Neurologists and psychiatrists know that suppression of the dynamics of the child's personality leads to various disturbances in somatic states and emotional constitution. Thus are neurotics produced.

FREE ACTIVITY AND LEARNING

As we leave the precincts of personality and consider the value of free activity to learning, we are forced to similar conclusions. Every good educator will readily admit that the ultimate purpose of education is not to acquire facts only, but to develop reasoning and insight. Education's aim is to develop independence, both intellectual and emotional. Direct teaching of subject matter and prescribed and outlined experiments do not lead to this independence and self-reliance. On the contrary, prolonged teaching leads to intellectual helplessness and emotional dependence in the pupils.

Similarly, if pupils are not encouraged to seek out for themselves suitable activities and to test out their acquired knowledge against their own world, they fail to develop in another area. This is the most important of all objectives in education, namely, to discover relations about us. The interdependence of situations and processes in the modern world is as great and greater than the interdependence of people. In order that we may have a workable understanding of the life around us we must understand this unitary relation in it. We are quite unable to make effective decisions unless we understand their influence not only upon the field of immediate concern, but also upon related fields. This is what is known as "the broad outlook."

Science education, more than many other subjects, is in a position to reveal and explain this widening inter-relation in life, and to a considerable degree it has attempted it. The modern text books in general science and even in such subjects as physics and chemistry are written with a view of indicating their relations to other fields and to social development generally. This is an admirable and valuable departure from the old segmental approach to subject matter.

What is commonly overlooked, however, are the psychologic implications in learning. Even when the best kind of text book is used and the best methods of presentation of knowledge are employed, we have no guarantee that learning takes place. All human activity occurs as a result of motive. Except in the case of very small numbers, we cannot assume that intellectual learning is a motive in itself. There are exceptional

children who are intellectual. Most young children are either partially intellectual or largely non-intellectual. They learn best through activity. Because activity is intimately tied up with survival and has a biological origin, it is a motive in itself. The function of the school is to harness activity impulses so that they may yield desirable educational and social results. The free science laboratory is one of the situations through which they can be so directed.

Science and Intellectual Aggressiveness

Before we come to the point of outlining specifically the nature of a free science laboratory and giving illustrations of its value, I should like to make one more generalization. Among the major drives in the child (and adults as well) toward the world is aggression. The very conditions of living and survival are achieved through aggression: one must needs attack the world and things in it in order to make his way in life. The problem of education is to convert ego-centered aggressiveness into socially-motivated effort.

This aspect of education, however, is outside of our present purview. The idea we wish to indicate is that intellect is an instrument of aggression. Curiosity and scientific and epistemonic drives are forms of intellectual aggression. If we are to conform to the basic laws of child nature, we must employ intellect as a tool of aggression rather than reception and absorption. Psychiatry has amply demonstrated that orderly, and therefore wholesome, development of mind is not possible where physical and mental powers are unduly repressed. I conceive science as being the result of man's intellectual aggressiveness toward nature. Science, to my mind, is also an added tool for expressing the same impulse which man sometimes uses against nature, other people and himself, but which he can learn to use beneficially to all.

If this meaning of science is true, and in the light of our bio-psychological knowledge it seems to be so, then the methods of teaching science must be quite different from those now employed. This body of knowledge must be employed to release the intellectual aggressiveness of children. We must provide for them at all points of their education possibilities to break and investigate things, to make and construct, to change and convert. All these are aggressive acts. Their value, however, is determined by the attitude and motive of the aggressor. If he breaks to release hostility, the act is constructive to himself but destructive to others. If breaking is a step in re-construction, in a new combination, or in making a new object, then it is constructive from the point of view of the adult as well.

The Nature of a Children's Laboratory

A laboratory is a reproduction on a small scale and in controlled conditions of an area of nature or man's environment bearing upon a specific content. Thus a physics, chemical, bio-chemical or physiological laboratory has in it objects and conditions that are found in nature, but so arranged or isolated as to make them stand out as separate entities, capable of study. When we speak of a laboratory for young children, with which we are dealing here, we have in mind substantially the same thing but with some modifying characteristics. A children's laboratory is not as specialized as one designed for adults. Children have not as yet become as specialized in their interests. They want to play around, manipulate, search and combine and so produce startling or interesting results. They may also learn something. The latter, however, is not so important from the standpoint of the child. What he really wants is to do things, to change them around, to recombine them. When he does become interested in what adults call science, he is not interested in any one of the

many different subdivisions. He is interested in his total environment, and at a certain age also in himself—in his body, in his processes, in his relations to the world.

The average child passes through three phases in his education: activity, utility, and reflection. In the first of these the pattern of his occupations is manipulative-exploratory. In the second it is mechanistic-practical, while in the third phase, the reflective, the pupil's activity is reflective-epistemonic. Thus a child's laboratory has to be (1) varied in its content rather than specialized, (2) it must be simple rather than complex, and (3) multi-phase so that pupils can find enough to do on their level of development.

In a good children's laboratory in general science the equipment should be made up of familiar things: pots and frying pans, bottles and corks, electric stoves and candles. The more complex and the less familiar apparatus is introduced later in the process. Children can be frustrated by things as well as by people. Strange objects frighten them and make them shy quite as much as do strange persons.

The activities, too, must be humble at first. We found it quite adequate if a girl's interest in her laboratory environment began with her lighting a candle and dropping the molten grease first on the table, then into a plate of water thus making "buttons." Such idle activity never failed to arouse a desire to make candles. One girl made candles from stearine only and paraffine only. She complained that the first gave off a poor light in her room, while the other "burned up too fast." She wanted to make a candle that would have both advantages. After pondering and talking a great deal she conceived the idea of mixing the two. One would improve the flame and the other would retard the speed of melting, she said.

Then colored candles became the girls' objective. Several joined together and worked cooperatively on the project. When dyes were obtained they experimented several days to determine a possible method of coloring the candles before they discovered that the dyes were soluble in hot candle grease.

Such activity seldom remains on the manual level. Numerous problems and difficulties arise with which children turn to the teacher. Many "whys" and "wherefores" are asked. The teacher in his answers pushes ahead the pupils' intellectual boundaries. The nature and laws of combustion inevitably come under perusal. Then experiments in burning paper, producing carbon, making charcoal for drawing, collecting smoke, water pressures and numerous other such activities and studies arise. Once the aggressive and pursuit tendencies, which are inherent in personality, and the drive-to-be-the-cause are aroused there is little the teacher has to do except to keep up with his eager, resourceful and inventive pupils.

The Values of Laboratory Experiences

The actual working out of the plan of spontaneous and self-initiated activity by children under fourteen always leads to group projects. If the object or experiment is impressive or dramatic, others join in it at once. They imitate one another, work loosely together, or organize temporary groups with a specific plan of operation. All these responses are important in socializing personality. Satisfactions and achievements become associated in the mind of the child with group life and make him more disposed to group and social responsiveness. Whether it is science or any other subject that the educator is dealing with, he must be always aware of his major function—to convert the egocentric feelings of the child into socially motivated impulses.

A boy of six once spent more than two hours lying prone on the floor trying to connect a bell to a cell "to make it ring." He had seen boys several years older than himself do it and he quietly proceeded to do it

Budding scientists at work.

Cooking is the beginning of scientific research, under the proper guidance.

Photographs from the Walden School, New York City

also. His concentration was so great that he did not notice anything that went on around him. He refused his mid-morning fruit declaring, "I'm too busy." After almost innumerable trials, the bell rang. The boy drew himself up full height and with a faint smile on his face said, "I knew I could do it."

The significance of this episode lies in its meaning to this boy. He was the only foreign child in a group of natives and spoke the language haltingly. As a result of the strained relations between his parents, and being an only child, he was an anxious and at times hyper-active member of the group. The boy was also easily cowed and readily displayed fear-reactions. All these elements led the group to make him a scape-goat. They persecuted him on every occasion so that he would often say to the teacher, "Do you like children? I hate children!" Making the bell ring, something that none of the children of that age could do, built up in him a sense of self-worth and evoked positive recognition from the others. Thus a free science laboratory can be employed as therapy and as a means for social adjustment.

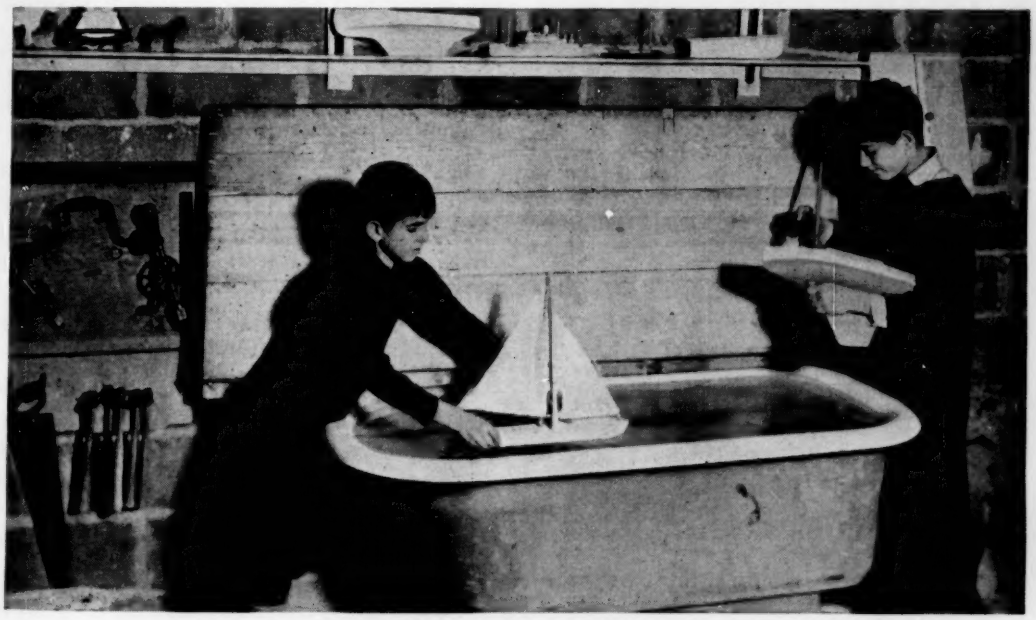
Once a seven-year-old boy wanted to make an "experiment like in my dream." He described in detail what he saw in the dream. This turned out to be a hollow conical clay structure, with flames emanating from its apex. The product looked and behaved like a volcano. We used potassium permanganate and liquid glycerine to produce the flames. When the flames shot up, the boy exclaimed, "My dream came true!" While the project was a very transparent sex phantasy, the boy continued his investigations with chemicals.

Perhaps a condensed outline of the development of a science interest by a group of boys and girls, aged eleven to twelve, may illustrate how learning proceeds from experience. One or two of these children found some glass prisms and a set of lenses in a box conveniently placed among other simple scientific materials on open shelves. They began to play with them. Being intrigued by the colors and distortions of vision they proceeded into investigatory manipulation, such as combining lenses, varying distances and objects. The results were sufficiently fascinating to draw all the other children of the group, fourteen in number, into the circle of play-inquirers. The serious aspect of this activity arose when some of the children observed the different effects of the apparatus. This was the *dramatic factor,* which is the child's chief stimulant to activity and learning. Much had been discovered, and still more information was supplied, from physics texts placed at the pupils' disposal as questions inevitably arose. The teacher's function was not one of an oracle, but rather as a guide to many sources of information.

As one would expect, the questions arose: "How do we see? What makes our eyes see?" Appropriate texts, conferences between the pupils and teacher, discussions, the children's own compositions and drawings of eyes, etc., were brought into play. "But," the children demanded, "we want to see an eye. We want to cut one open and see what is inside."

Each child was given a cow's eye, obtained from our butcher, to do with what he liked. Having studied the gross structure of the eye theoretically, they knew what to expect. Most of them were especially intrigued by the lens and retina, and extracted them with great care. Imagine their surprise to find in the cow's eye a lens of precisely the same appearance and texture as the glass lenses they had played with. A lens was left to "dry," exposed to the air for several days, and its crystalline structure was revealed.

One or two of the children wore eyeglasses, and the question of the function of glasses was propounded. A study of the abnormal construction of the eyes which results



If no other place is available, a discarded bathtub becomes a lake for testing buoyancy and the laws of immersion.

in astigmatism, myopia, hyperopia, was made. Out of their experience and discovery the children were able to suggest types of lenses, qualitatively, as correctives to various eye conditions.

"But how do the nerves work so as to make us see?" one of the brighter children, a girl, asked. We inevitably drifted into the study of the nervous system. Physiology texts were pulled off shelves. An eager and fascinated group of youngsters were entering the portals of life's deepest mysteries. Numerous sketches and compositions were written on the information obtained from charts and books. The children were now quite naturally interested in our specimen of a preserved brain, which, was, until then, kept out of their sight. A study of the synapse and the building up of tracts in the nervous system caused one to exclaim, "Now I know how we have habits!" This started the group on a discussion of personal habits and led us into psychology.

One of the children, who must have heard the subject discussed at home, wanted to know what psycho-analysis was. We did not encourage the discussion of this subject. The entire subject of psychology was treated perfunctorily by the teacher, for we felt that our work had better be maintained on an objective plane. But we were not able to prevent the formulation by the children of some highly ethical concepts of social and anti-social habits.

That sub-division of knowledge described as chemistry has come under the group's scrutiny, as a result of their discovery of the spectrum and the sensation of colors. They made dyes, colored cloth with chlorine, and the teacher demonstrated some spectacular color changes in chemical reactions, too advanced for children of this age to do for themselves, or which they could not have discovered on their own.

A notable development by one of the girls of the group ought perhaps to be recorded here. Having discovered through her studies, play, and the focussing of the sun's rays by means of lenses that heat is a concomitant of light, and that color is fundamentally a condition of reflection and absorption of rays of light, she came to the conclusion that different colors would contain different heat quantities. She at once set out to test her theory and evolved entirely on her own the following technique: Upon a strip of paper she drew sections of different colors in crayon; red, blue, yellow, green, purple, etc. Equipped with a double convex lens and a watch she went to the roof of the school building and focussed the sun rays upon each strip of the color successively, noting the time it took to set the paper on fire. She discovered that this time varied for the different colors.

To those who have been trained in epistemology the significance of the last self-originated and self-initiated experiment will be of particular interest. The genesis of the idea, the summation of past knowledge, and the awareness of causative relations involved are of high degree. That a girl of eleven can achieve it may be incredible to those who have not had the opportunity to observe the resourcefulness of children alive and vibrant with interest.

Man

OF TISSUE so capricious yet so magical—
Pockets the lightning, computes infinities,
And plays the prophet to a host of suns,
Yet cools at a bird song, wavers at a kiss,
And at a hint of crimson in a flower
Grows silent.—*Ross Edward Pierce*

Trips in an Experience Curriculum

NELLE MORRIS

The relation of trip schedules to the school program, questions of transportation and safety, and the values of trips in helping the child interpret his world are discussed by Miss Morris, teacher in the University School, Ohio State University, Columbus, Ohio.

IN AN experience curriculum trips are not considered extra-curricula but are definitely arranged as an essential part of the program and a major contributing factor in the development of the children. They are not selected at random but are generally related to some central theme or group interest. In the primary grades these are usually themes such as, "People Who Help Us," "How the City Takes Care of Its People," "How We Get Our Foods," "How People Travel," "Shelter," "Recreation," "Toys," or some other interest relating to man and his needs.

Trips are also taken at times because of a seasonal or special group interest such as a trip to the public library during Book Week, to the farm or a hatchery to see baby chickens or baby rabbits at Easter, to a woods in spring to look for wild flowers and to enjoy an afternoon in the open, or perhaps to buy a Christmas tree for room decoration, later to be given to some needy family. Such trips quite naturally come into the calendar of experiences as a transient or minor group interest, but play an important part in the development of the children, just as seasonal interests play an important part in adult life.

In the Ohio State University elementary school, setting aside a definite time for trips has proven a satisfactory plan. For purposes of general understanding and cooperation from parents and university students these are generally scheduled on Thursday afternoons. Occasionally, but seldom, some circumstance makes it necessary or advisable to schedule trips at some other time. Parents of the school understand that study trips all over the city or into adjoining environments are a part of the school's program.

There is no compulsion about a weekly trip and there are circumstances which often make other experiences advisable. Lantern slides, a motion picture film, some person brought in to share his experience with the group, science experiments, or some other activity related to the study such as cooking, churning, or threshing are often used as substitutes for a trip, or to further clarify a trip which has been taken previously. However, the regular expectation of a trip stimulates teachers to search the community for valid experiences related to the group study or a seasonal interest. This gives to the work the impetus which comes from new contacts and resources. There is seldom as rich a provision for out-of-school contacts in a program which has to be adjusted to include trips by changing the time usually devoted to other things.

Trips are always planned with a definite time limit for return to school and so are timed with reference to distance by adjusting the time for leaving school. The children have their lunch at school on trip days and primary children have a rest period of twenty-five to thirty minutes after lunch in order that the trip may not cause undue excitement, fatigue or strain.

All children return to school and either go home or wait there until called for by their parents. These arrangements avoid irregularity which often leads to worry and misunderstanding on the part of the parents and misconduct on the part of the children.

The classroom teacher is always in charge of the trip. Students, parents, or other teachers assisting know it is her responsibility to make the contacts at the places visited, to decide how the time and attention of the children are to be apportioned. She also checks on attendance when it is time to start back to school.

The teacher makes arrangements in advance of the trip. She usually makes the trip herself before she takes the children unless she has been there a number of times before. By so doing she is in a position to anticipate what may be necessary in the way of suggestions to make the experience more profitable and successful from the educational point of view.

Before going, the children and teacher of each group set up standards of conduct which will help make the trip pleasant and profitable for all. The following examples are in the children's own words:

Sit still in the taxis.
Play some quiet game in the taxis. (For example, watch for license tags from different states; try to find the whole alphabet in order by finding first an A, then B, etc., either on advertisements or license tags.) These were favorites.
Do not push or crowd.
Do not get silly and excited.
Do not bother the meter.
Stay with the big person who was in your taxi.
Do not talk.

When some children objected to this last standard, saying they could not find out things if they did not talk, the teacher said she would try to help them find an opportunity to ask questions of the guide.

Standards will vary according to groups and trips. Another primary group set up these standards:

Thank the lady when you are going away.
Be careful of her furniture and do not touch things.
Be quiet and listen when the lady is talking.
Stay with the group you are supposed to stay with.
Do not talk loudly.
Do not crowd.
Do not wander around.
Do not ask for things.
Keep on the walks.
Do not open the door until time to go out.

If we are concerned with the development of social sensitivity we must seek and utilize social experiences for that purpose. Living in a group where the children are active, contributing members, helping to decide matters of group concern for the welfare of the group life; helping to make rules when they are necessary for the welfare of members; then holding themselves to these rules or standards, thus gradually growing toward intelligent self-direction, is building for an understanding of the civics of a democracy. No one can really understand democracy unless he has first experienced it.

Transportation and Safety

One question which is usually asked pertaining to trips is in regard to the modes of transportation used. Some very significant experiences require no mode of conveyance because they are within easy walking distance of the school. For example, a group may take a walk around the neighborhood to see of what materials houses are made. Another group may take a walk along a busy street to see how many workers or signs suggesting kinds of workers they can see. Or perhaps another walk may be taken to study different safety signs. All these experiences stimulate questioning and discussion by the group.

To have a variety of transportation experiences is in itself an educational consideration. Walking, street cars, taxis, a university bus, and a bus rented from a neighboring school are the modes which have been used for trips. Imagine the thrill of a group of children who are given a ride in the engineer's cab for some distance down the track and then back to the roundhouse, or a ride across a field in the farmer's wagon.

All these experiences are rich in situational opportunities for exercising caution and responsibility conducive to safety. The children have the advantage of educative guidance in experiences which involve some of the characteristic hazards of every-day living. Surely this is much more defensible than the over-cautious avoidance of school trips and experiences to which some school authorities resort as a safety measure. Life today is bound to have certain hazards. The school should not forego all trips when it thereby reduces not only the opportunities to inculcate reasonable discretion, caution, and responsibility but also misses the valuable first-hand experiences through which further study can be made more meaningful and realistic.

Values Heightened by Trips

Study trips are an excellent means of arousing and encouraging intellectual curiosity and a scientific attitude on the part of children. By means of these they can study the community, watch other people at various kinds of work, find the answers to their own questions, and then come back to school where meanings are further clarified by discussions, pictures, books, experimentation, construction, and dramatic play.

Even primary children can begin to think critically; to develop a problem-solving attitude of mind; to seek answers to their own problems; to seek for the cause and effect of happenings; to want something better than a guess, and to try to validate their answers. Through such experiences the children develop a greater understanding and appreciation of the labor involved in supplying their daily needs and of the cooperation necessary in this work-a-day world. Their horizon is extended beyond the doorway of the school and the home.

A greater interest of parents in the school is often aroused through hearing their children discuss their experiences. Some parents even take their child on a return trip to the place where the group has been to help him clarify some point. While one group was studying about travel, one mother, wishing her child to have the experience of riding on a train, took her to Washington, D.C., for spring vacation. Pictures and an account of the trip were brought back to school and shared with the group.

Some vital shared experience, such as a trip taken by the whole group, brings about more group unity through supplying a concrete group concern. It requires cooperative planning before taking the trip, shared responsibility for making it a success, and provides a common background for discussions and sharing of information. It also arouses interest which often leads into a whole series of experiences, thus serving as a concrete starting point for a unit of experience or, as often termed, a unit of work.

In recent educational writings we see much stress laid upon the social development of the child. We are told in *Modern Practices in the Elementary School* that "Education is indeed a social process, the process by which the individual becomes a member of the group only as he actually participates in its purposes and responsibilities. Persons who are merely situated near one another or engaged in similar activities do not form a social group. To do so they must take part in shared, cooperative endeavors in which all work for the attainment of common goals."[1]

If the situation is a sincere, democratic one which necessitates the setting up of common purposes or goals by the children under careful guidance of the teacher, these purposes are meaningful and seem worthwhile to the children. Therefore they cooperate to solve their problems.

By providing stimulation for further study and inquiry, trips lead to other trips and provide for a continuity of many other pur-

[1] Hockett, John A., and Jacobsen, E. W. *Modern Practices in the Elementary School.* New York: Ginn and Company, 1938. p. 10.

poseful activities. Thus piecemeal learning is avoided and the child is helped to sense significant relationships inherent in the situation.

A group of seven-year-old children went to visit a food shop. They became interested in the sources of the different foods and why foods have to be shipped. This led to further discussions about climate and soil and also to an awakened interest in the globe and maps. They began to get some concept of climatic differences and of differences in soil. Experiments of growing seeds in different soils, sand, gravel, clay, and loam were tried. Through frequent reference to the map and globe they began to develop concepts of the relationships of Columbus, Ohio, United States, North America and the world—in other words, city, state, country, continent and the world. They also learned to tell directions on the maps.

As this study progressed, the idea of making a large map of the United States, showing where different foods are obtained, was initiated by the children. This seemed rather a mature project for seven-year-olds. But after some consideration the decision was made to help them satisfy their interest, not to push it but to see how far this interest and curiosity would lead them. A large window blind was procured and fastened against the blackboard. Then a Keystone lantern and slide were used to project a large outline map of the United States on the blind. The children traced the outline on the blind with sharpened crayolas.

After the map was under way the question arose, "How are we going to find out what foods are raised in different states?" One child said she knew someone in Michigan to whom she would write. Several other children mentioned relatives to whom they would write. As the interest grew, more children volunteered their help. Letters were written to and answers received from fourteen states. One child whose father had a short wave radio set talked to five different states and obtained information. Replies to letters were anxiously awaited and as information was obtained, pictures of the different foods were drawn on the map in the state in which they are produced. This often led to further research since some of the foods mentioned were not familiar to the children. Pictures, encyclopaedia and dictionaries were used. Two children brought in books from the public library.

While the map was being made the children were having many other interesting experiences in connection with foods. Among these was a trip to a refrigerator car to see how foods are preserved while being shipped long distances. A booklet containing the children's own group records of their experiences, illustrated with linoleum block prints, was made. The study finally culminated with a real market day. The children visited a wholesale market and bought produce which they sold to their parents and other visitors at retail.

Another group, after a visit to a toy department in a large store where they saw electric trains and toy steam engines, became interested in the power of electricity and steam. This led to a number of interesting science experiments to help them find the answers to their questions and to help them realize the part electricity and steam play in their own lives.

Meanings are necessary as a basis for generalization. It is only after a child has had many first-hand experiences for a background that he can really generalize, and there is danger in expecting him to generalize too soon. Generalizations should not be imposed upon the children by the teacher. Through study trips into the community, carefully guided by the teacher so that vital educational values emerge, the children are acquiring a background of meanings for understanding and appreciation of human relationships, the interdependence of people, and the changes man has wrought in his environment.

A child who has threshed wheat with flails, winnowed it with newspapers, ground it in a small hand mill, baked his flour into muffins, then has seen it threshed by machinery, visited a large mill and seen it ground and sacked by machinery, visited a bakery where the mixing and kneading of the dough were done by machinery, begins to realize the changes brought about in his environment through the thinking and effort of man. He is surely building a readiness for a better understanding of the changes wrought in living by the Industrial Revolution.

Children are nearly always interested in the "long ago" and "far away" but they have to be oriented in their own immediate environment before the past or far distant can become meaningful. A group of primary children was constantly making comparisons between travel today, in the past, and in other countries. One morning a toy streamline train and a model of one of the very early trains were brought to school. The children placed them side by side on the floor. Some of them began to laugh at the difference. One boy remarked, "But you must remember when that first train was invented it was just as wonderful as the streamline is now." This child showed that he was beginning to sense how the present has evolved from the past.

It is only through many first-hand experiences, which the teacher so plans and guides that the child senses the relationship between these experiences and himself, that he acquires a stock of meanings valuable for his living and thinking, builds up a rich, meaningful vocabulary, and is ready to understand the writings of others.

Among the Youngest Scientists

GERTRUDE E. CHITTENDEN

The very young child is a true scientist for he spends most of his waking time trying to find out about the things around him. Miss Chittenden, instructor in the State College at Ames, Iowa, describes some of the interests of these youngest scientists.

IS THERE anywhere in the world a more truly scientific mind than that of a two-year-old? He is certainly unbiased. There is a world of unstudied phenomena about him; his laboratory is unlimited in size. He is in search of the truth and is willing to use all the resources within his reach to discover the truth. We adults are part of those resources. The child has all the qualifications of a true scientist; it is up to us as guides—wise ones, we hope—to be curious enough, alert enough, and interested enough to help him discover the truths for which he is searching.

It is necessary that he find out about the things around him. It is only by doing so that he can see himself in relation to his surroundings. This orientation process is a very important one. It will make him better able to think clearly, to face reality without fear and confusion, to get along with others, and will instill in him the feeling of power over and control of his environment which is so important from the standpoint of mental health.

WHAT ARE YOUNG CHILDREN'S SCIENCE INTERESTS?

There has been one very interesting study of the science interests of nursery school children. It was made by Mary Field at the University of Iowa, in Iowa City. Miss Field pre-

sented new materials into the children's environment and called their attention to materials already there. Some she presented indirectly, others directly. The materials she used included plants, physical phenomena, mammals, insects, reptiles, fish, amphibians, and invertebrate animals. Some were seen in artificial surroundings, some in their natural habitat.

She studied the behavior of forty-four three-year-olds in the attempt to answer such pertinent questions as:

How interesting are certain science and nature materials to three-year-old children?
What are their reactions to them?
What are their questions and comments?
How much information can they acquire?
What other activities are stimulated by activities with science materials?
What methods of measurement can be used?
What kind of nature and science program can be built up?

The results of the study showed that three-year-old children are more interested in those things that are dynamic rather than static. The lamb, the pony, and the chickens were much more interesting than the earthworm, the tadpole, or the garden. Materials presented for a shorter time rather than a longer time ranked high in interest appeal.

Surprisingly, perhaps, there were more comments offered than questions asked and the number of comments and questions increased as the size of the group decreased. There were the most questions asked about characteristics, habits, and interesting facts; appearance ranked second; care, third; name, fourth, and abode, fifth.

Individuals differed widely in their reactions to the various materials. Specific interests were evidenced by (1) inspection of and return to the materials, (2) discussion of the materials, (3) inclusion of materials or the subject of them in play or conversation, (4) care of materials, (5) handling materials, (6) bringing materials to school, and (7) reporting experiences with similar materials at home.

This study, entitled *Nature Study Activities for Three-Year-Old Children,* undoubtedly has much valuable information for teachers of young children. I have given only a very sketchy summary in order to give you some idea of the work which is one of very few, if not the only scientific approach to this subject.

Outdoor Experiences

At Iowa State College we are fortunate in having a wealth of nature opportunities. Our playground is a large one with many bushes, trees and flowers, space for gardens, a home for the rabbits, and houses for the birds. Our campus is lovely and the college itself offers many resources for helping the children to learn about the things with which they live. Excursions to the barns to see new lambs and pigs and calves, to the lake to see the swans, to the zoology department to see the snakes, and to the aeronautics laboratory to see the airplane are a few of the possibilities. Since it is the situation with which I am familiar, I shall use some actual cases to illustrate the science interests which are evident in a group of pre-school children.

Just now nature experiences are numerous. New leaf buds, dry leaves, growing iris, pine cones, old maple seed pods, birds preparing their houses for occupancy, a new bunny, and only two days ago the season's first violets offered delightful experiences.

Last week when curiosity about the buds on the apple tree arose, we put a few twigs in a vase of water. When three children gathered around them, the teacher said, "These are buds. Leaves, little green ones, are inside the buds. Here are some tiny leaves that have just come from a bud."

George (aged 2-10): "Bugs?"
Teacher: "No, buds."
George: "Bugs, buds, bugs, buds."
Teacher: (getting picture book of bugs): "Here is a bug, George. It is crawling on a leaf. These are buds."
George: "Oh, bug on leaf; leaf in bud."
Teacher: "That's right, George."

George had made a new acquaintance in the

Photograph by Margaret Bonine Fox

The aquarium is always fascinating to the young child.

form of a leaf bud and had added one more word to his vocabulary.

To the same situation Jerry (aged 3-6) responded this way:

Jerry: "Why are the limbs in water?"

Teacher: "Buds need water and warmth to grow and become leaves. The water goes up the stems."

Jerry: "Will these have leaves tomorrow?"

Teacher: "I think so, Jerry. We'll wait and see."

Jerry was delighted to find leaves on the twig the next day. He came to the teacher and asked to put more water in the vase because "the other water went up the stems to help make leaves."

During outdoor play Jerry picked up a branch of Scotch pine. He brought it to the teacher with, "I'd like to put it in a vase and watch the leaves come out."

Teacher: "These are the leaves, Jerry. We call them pine needles. They are always green."

Jerry: "What's this?" (pointing to a bud).

Teacher: "It is a bud, Jerry. Some day it will look like this pine cone on the ground."

Jerry: "I think they are pretty. I want to put them in a vase."

Teacher: "All right, Jerry. We shall enjoy having them in the playroom."

Dry leaves are fascinating. Children like the sounds they make when they shuffle through them. The following little poem was inspired by remarks made by children in the autumn when the leaves were falling:

Some leaves are yellow; some are brown,
They are all on the ground
When my feet go through them
They make a swishy, swooshy sound.

It is fun to crumple them in one's hand and listen, too. As one two-and-a-half-year-old said, "They sound like when we eat celery."

Small rakes put into the environment when dry leaves are there stimulate children to a form of activity which may give rise to some very worthwhile discoveries.

Margaret (aged 3-3) and George were vigorously raking leaves off the flower bed when

Photographs by Margaret Bonine Fox

Pulling dandelions for the rabbits.

Margaret raked out an iris bulb that was not rooted firmly. She picked it up and gazed at the roots intently.

Margaret: "What are they?"

Teacher: "They are roots, Margaret. They should be down in the ground. The green leaves stick up above the ground."

Margaret: "I'll make a hole for it."

Teacher: "And I'll help you." (Together they dug a hole. Margaret put in the bulb and covered it.)

Margaret: "Now it can grow."

George had been watching. He touched a blade of grass and said, "Flower, too?"

Teacher: "No, George, that is grass."

George: "Roots?"

Teacher: "Yes, in the ground."

George pulled up a handful of grass and looked at the roots. Then he made a hole and put the roots into it.

Sarah Jane (2-7) uncovered some young weeds when she raked dry leaves away from the fence. The teacher called her attention to them by saying, "See, Sarah, these are new little weeds growing under the leaves."

Sarah: "Will they grow big?"

Teacher: "Yes, when the sun shines on them. They will get greener, too."

Sarah: "I'll rake leaves off. Sun will shine on 'em then."

Have you ever experimented with maple seed pods? Tiny fingers can open them and find the seed. The wing is a constant source of delight. The pod itself is a perfect whirligig when thrown into the air. One little boy named them "airplane pods" when he watched one whirling madly on its way to the ground. It is a short step from these simple experiences to the explanation of how the wind carries the pods and lets them drop with the seed down so that they sink into the ground and start growing.

A group of children discovered a premature baby sparrow that had emerged from an egg

which fell from a bird house on the playground. The teacher who arrived on the scene was bombarded with a series of questions, one of which was: "Why did he fall?"

Teacher: "This bird was not ready to fly. It is a baby bird. See, its wings are not big enough to use."

Patty: "It doesn't move."

Teacher: "No, Patty, this little bird is dead. It fell and hit the ground hard. It was hurt and now it is dead."

Patty: "Why did the mother let it fall?"

Teacher: "The bird was inside an egg in the bird house. Perhaps the mother accidentally pushed the egg out of the house and it fell. Baby birds grow inside eggs. When they are ready to move around and fly, they come out of the eggs."

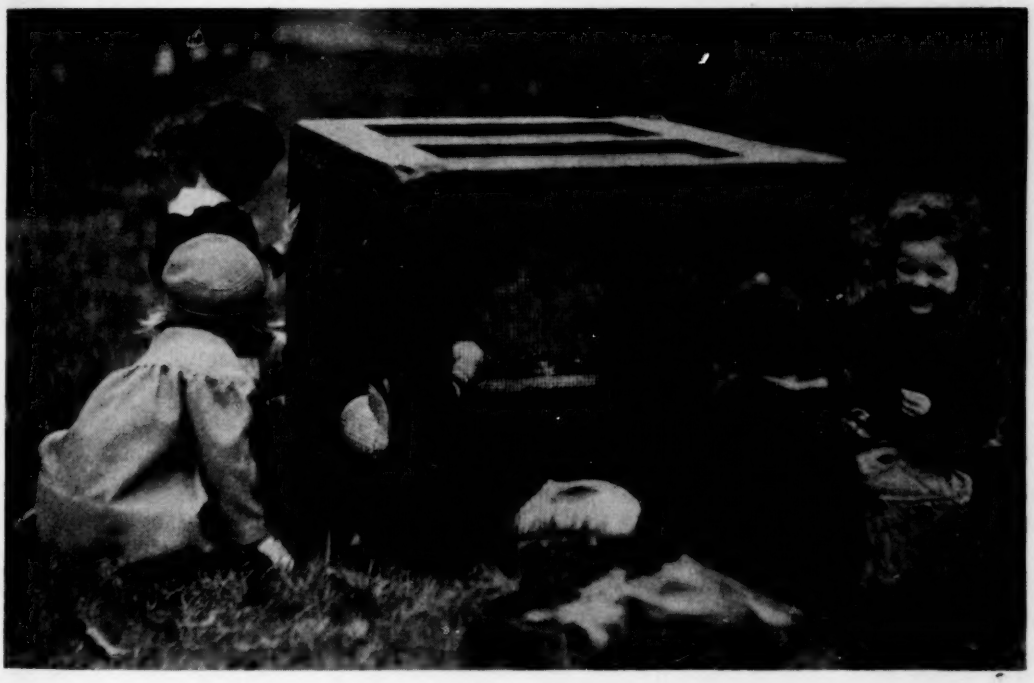
Patty: "How old is the mother bird?"

Teacher: "I'm not sure, Patty. Perhaps she is a year old."

This experience needs to be broadened. We plan to bring in a hen and some eggs so that the children will have an opportunity to see chicks hatching.

The birds are a constant source of pleasure. Industrious martins are busily cleaning a house on the playground now and the children delight in watching them. We have had an interest in birds all winter. Food has been placed in feeding trays just outside the playroom windows and suet baskets were hung in trees. When an extremely out-of-season snow storm happened along a few days ago, the children showed a great interest in the bewildered robins which were hopping around vainly looking for food. They fed the birds bread crumbs soaked in milk and had the thrill of seeing the birds hop right up to the sidewalk near the door to get the food.

Very soon gardening activities will begin. Here it is somewhat difficult to find plants which have all the characteristics desirable for nature study by a preschool child. The plant should be fast-growing, easily cultivated, and should have large enough seeds for the children to handle easily. The bean is a very satisfactory plant. Although the



Feeding the rabbits.

lettuce seed is small, the plant is a good one to use in the nursery school garden because it grows rapidly and produces food for both children and the rabbit. Flowers should have the same characteristics plus two others, namely: large buds and numerous, oft-repeated blossoms.

We have just acquired two white rabbits. Many interesting snatches of conversation can be heard as a group of three or four children stand near the hutch. These are some comments heard one day: "See his nose wiggle." "Bunnies are white." "Pink eyes." "He's eating lettuce."

The proper food for bunnies brought much discussion. The adult suggestion that bunnies like green vegetables and grass motivated two two-year-olds to pull grass for them. The older children make trips to the kitchen for carrots, lettuce and cabbage, and everyone, from two to five, spends many minutes watching the rabbits eat.

Indoor Experiences

Needless to say, all of our nature experiences cannot take place outdoors. There need to be indoor activities which can go on when outdoor play is impossible. Probably the best indoor equipment for nature experiences is the combination aquarium and terrarium. Fish, turtles, tadpoles, snails, and salamanders can occupy the aquarium, while plants, insects, worms, and lizards can live in the terrarium.

The aquarium in our playroom never fails to attract an interested group of children each day. They feed the fish and turtle, then gleefully watch them consume the food. That they are observing and learning is shown by such remarks as the following: "The turtle has a hard shell." "Fish are sleek." "Turtle is pretty underneath." "Fish make bubbles." "Turtle's head goes in and pops out."

Occasionally we take the turtle out to watch him walk. While watching him one child said, "Turtle can walk and he can swim. My big brother can swim, too."

Early in the spring narcissus and hyacinth bulbs offer opportunities for watching plant growth. Planting the bulbs is an experience which will call forth an interest in the end product. If good pictures of flowering hyacinths and narcissi are shown the children at that time, they will be interested in watching for the same kind of flowers on the real plants. Any house plant put into the nursery school environment should be a hardy one that the children can care for.

A Study of Wind

To illustrate the possibilities of science study in the nursery school, I should like to describe a project which grew out of an interest in wind shown by some of the children in our older group—three-and-a-half to five-year-olds. The interest arose when a little boy became fascinated with the window curtains which were blowing into the playroom. As the curtains waved and billowed out into the room, he attempted to catch them. At rest time on that same day several children imitated the sound made by the wind as it whistled around the corners of the house.

The teacher recognized these incidents as definite interests and met them with such stories as, "Peter and the Wind" in *Here Comes Peter* by Verna Hillis; by such poems as "What Will the Weather Be" in *The Weather Fairies;* with songs like, "The Windy Weather Song" in MacCartney's *Songs for the Nursery School.* Near the workbench she put a simple whirl-wheel made of paper and wood, and enough of these raw materials to make others.

We are not concerned that the child be able to express verbally the things he has learned, or that he learn all about the subject the first time he meets it; we do want him to learn a few simple facts. We want these facts to be true, and we want him to have the desire to find out more about this particular subject whenever he is ready to absorb more information.

The Child Explores His World

CATHARINE KNEELAND

How a museum helps to develop appreciation; give information; interpret the physical, natural and social world and bring about life-long interests to the children who visit it. Miss Kneeland is with the Harmon Foundation, New York City.

HOW a children's museum acquaints children with the world outside their experience and provides for constructive use of young energy has been set forth in "The Child Explores His World," a two-reel 16 millimeter silent motion picture produced by the Harmon Foundation, Inc., of New York.[1] The film is based on the activities of The Brooklyn Children's Museum which was chosen as a model since it is the largest in the world, was the first in existence, and has long ago passed the experimental stage of development.[2]

Since the city child's environment is man-made, since he has no part in nature's developments and rarely sees or feels a growing thing, it was necessary to devise a method which would extend the work of the home and school in teaching of the natural world. It was to fit the needs of the city child that The Brooklyn Children's Museum was designed.

FILLS THE GAPS BETWEEN RURAL AND URBAN LIFE

The unfortunate situation of the city child is dramatized in the opening sequences of "The Child Explores His World." How many of his surroundings are made of cement and stone becomes increasingly evident as small feet are seen treading sidewalks, waiting on the curb at street crossings, and playing running games on hard paved playgrounds. Even urban food seems manufactured rather than grown, prepared in cans and cases by mechanical devices. Milk is seen only in bottles, as it is left on the doorstep each morning.

The country child, on the other hand, learns naturally of planting, growing and reaping. He gathers fresh eggs from the nests in the hen house. He is on friendly terms with the milk bottle's important predecessor—the cow.

The gap which exists today between urban and rural life was a wide one as early as 1899. A scene of street play of that time demonstrates that the city child's problem is not new. It was in that year, however, that an attempt at solution was made, the founding of The Brooklyn Children's Museum. Its first building was an old Mansard mansion flanked by broad lawns. Today this and a second old residence across the street contain all museum activities.

In the beginning, necessarily experimental, the equipment employed was simple. This same equipment is still used, although numerous additions have been made. The original materials shown include great papier-mâché flowers with labeled and detachable parts, a large dimension papier-mâché beetle, an Audubon chart, boxes of shells, cross sections of woods, and stuffed birds—

[1] The film was first presented on May 19, 1938, to the Children's Museum Section of the American Association of Museums Conference in Philadelphia. Since then it has been used by adult museums in their stimulative programs, and by teacher training classes in visual methods. It is valuable, too, for use by clubs, civic organizations, schools, parent-teacher associations, churches, and the like.

The film may be rented or bought from the Division of Visual Experiment of the Harmon Foundation, 140 Nassau Street, New York. Reference outlines, containing program suggestions, and music records to accompany the film may also be obtained.

[2] The Harmon Foundation has not only shown in its picture how one such museum works, but has gone further, demonstrating how any community or organization may develop a similar program of activities for its children and so offer them opportunities for more complete self-expression and a fuller enjoyment of life.

apparatus offering natural outlets for young curiosity.

Answers Natural Science Questions

A series of shots in which children demand to know the "whys" of their experiences with the world make concrete the persistent questioning of their minds. *Why* does the plant have roots? *Why* does the rain fall? *Why* do we have rocks? *Why* do we have the fire? *Why* does the carpenter drive the nails? *Why* does the grindstone grind?

The Brooklyn Children's Museum accepts the task of providing answers to such "why" questions—queries which few adults could answer clearly and satisfactorily, and which the school can only attempt to treat. Child research, extending the educational function of the school, is accomplished here in an atmosphere approximating that of the home play room. Boys and girls together are seen studying in the library and examining exhibits.

The children appear to feel that the museum is their own, and spend a good deal of free time here. The older children develop serious hobbies, often well advanced from a scientific point of view. They are seen examining woods and classifying shells. A boy is seen determining the specific gravity of minerals. The younger children in the Busy Bee Room are absorbed in putting together jig-saw puzzles of birds, flowers, and animals which they can identify, and in doing construction work with wood.

Due to this attitude of absorption, only one rule is necessary at the museum: "Clean Hands." This is especially important since the exhibits may be handled freely for close acquaintance. Even living exhibits—a baby alligator, a horned toad, a hive of bees—may be explored by touch. This opportunity for manipulative knowledge is a point which is stressed by museum authorities. As another aid to intimate knowledge, all exhibits which must be fixed under glass, it is emphasized, must be located at the child's own eye-level.

When children have shown by tests that they understand exhibits, they may take them home for further study. Children are seen carrying away from the museum cases of mounted fish, birds, and butterflies, which they may investigate thoroughly and show to their families and friends. Such a system provides for a ready transition between museum and home life.

Interprets the Social Sciences

While natural sciences are an important central focus of museum work, The Brooklyn Children's Museum provides exhibits which extend outside this general field into the social sciences. Models of native villages, costumed dolls of the nations, and some workable models of industrial inventions such as the cotton gin are made available.

However, in teaching of the history and the political geography of the world the main type of exhibit employed is the diorama—a miniature stage setting complete with tiny figures, each scene dramatizing an episode important in affecting the course of world events. All cases containing dioramas have explanatory legends affixed to them. Further, particularly in this department, sympathetic docents are always ready to interpret exhibits and to answer any questions pertaining to them.

The world's natural appurtenances—plants, animals, minerals; the world's history and its knowledge, then, are the fields which the child explores. But exploration does not cease when the child has searched exhibits with his eyes and with his hands; it remains for these perceptions to be fixed. This is accomplished through creative work based on his observations.

Provides Opportunities for Creative Work and Social Contacts

The film shows children painting and modeling, contented at expression of their learning. Geographical research finds release in map-making. Working from a map which

they trace themselves, children build up plaster of Paris mountain peaks and level off plateaus, until the country they are considering becomes well understood in its physical contours and in its relation to other lands.

Not only individual work but also group endeavors supplement the museum program. Clubs are designed to provide wholesome outlets for social expression and to encourage leadership. These include a Stamp Club, a Crafts Club, and a young mineralogists' Pick-and-Hammer Club—three of the museum's accessory organizations which are shown in operation.

In the Stamp Club, children engage in stamp exchange and become aware of the geography, history, and art to be found in the stamps themselves and in the study regarding them. Display arrangements are made that relate the study of stamps to current and past events.

The Crafts Club includes in its activities the printing of a museum publication, "The Guild Voice," with members preparing and editing the copy, setting the type, and actually running the press. All of this is intended to make for a precision of thought and a feeling of responsibility for a part of the museum activities.

The Pick-and-Hammer Club, which excludes adult visitors, is perhaps the most serious of the lot, indulging in such advanced activity as microchemical analysis of minerals.

Sponsors Field Trips

All of this work inside the museum is supplemented by field trips into the larger world. The mineralogists are seen before a mass of rock formation, using pick and hammer to chip off actual samples of strata for study—an activity bringing the child close to reality.

Field trips, visits to adult museums, and programs of lectures and educational motion pictures covering a wealth of subjects not only increase the scope of the child's learning and offer concrete knowledge, but also tend to bridge the gap to the adult world. Transitions from museum work to the home, to the school, and finally to vocational fields outside of the childhood realms of endeavor serve to relate the museum to the child's complete life, making museum work a more valuable enterprise than would be possible if it were no more than an isolated experience.

How Museum Experiences Are Used

In relation to the school, it is seen that leadership which is developed in the child's work at the museum carries over into the classroom. A small boy, with an Indian exhibit he has borrowed at the museum, speaks before his class, interesting the other children with the objects he is able to explain to them.

Children are seen making use, quite naturally, of nearby adult museums—enjoying the pictures and hunting out exhibits on which they wish to take notes and make drawings. Learning how to make intelligent use of museums during childhood provides a useful tool for later life.

The Brooklyn Children's Museum is unique in that it has operated sufficiently long to prove the value of its work. Two prominent Brooklyn business men, who used the museum when they were children, have not only stated their gratitude for its aid in their adjustment to life, but have also allowed shots of themselves and of their work to be included in the film.

One of these is Herbert B. Pearson, now in partnership with his father in the importing of lumber, who feels that his scientific studies in the museum as a child aided him in his approach to business. He is seen on his own dock supervising the unloading of huge logs of rare woods. His business requires a precise knowledge of his materials and an ability to manage people.

Carl Supp began his first work with minerals at the museum and carried it over into a vocation. As an accomplished lapidary, he is shown at work polishing precious stones

Making mountains and valleys and learning a lot about Switzerland.

Stamp Club ange
"
"The Ohio W

This boy proves that he understands the exhibits, thereby qual for the privilege of borrowing them.

mp Club ange their stamps
."

om
"The Ch's World"

Younger children busy with building.

reby qua

Young students of socio-economic problems of the South try out a model of a cotton gin.

which are cemented to sticks for facility in handling. He made the equipment which he uses—a refinement of the crude machinery he first developed as a youth in the mineralogy division.

Why Have Children's Museums?

The boys and girls at the museum are all working toward some goal. Too often, without such a center of encouragement, childish curiosity and strong social instincts may lead to mischief and later to crime. Candid shots of small children delving into garbage cans, climbing over railings, and tipping over large street waste receptacles demonstrate what children will do when guidance is not given them.

The film emphasizes that a children's museum, which will capture this energy and direct childish curiosity into useful investigative channels, may be begun modestly. A recent development is one at Jackson Heights, Long Island, New York. Under private sponsorship, it was established in an old store building on the main shopping street. The structure has been adapted to accommodate the boys and girls who flock there and, at small expense, equipment is furnished for painting, modeling, and nature study.

Others that have been developed throughout the country are opening the way to broadening the understanding and enriching the lives of future citizens. There are now twenty-two regular children's museums in the country, and nine which have been set up as a part of adult museums, making a total of thirty-one such institutions.

Fifteen states now offer children's museum facilities: New York leads with a total of eight; California has four; Massachusetts three; Connecticut, New Jersey, and Ohio each have two; and Colorado, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Oklahoma, and Rhode Island each have one museum.

According to Mrs. William Lloyd Garrison III, Curator-in-Chief of The Brooklyn Children's Museum, "From the many years that children's museums have operated, and from our own results after nearly forty years of operation in Brooklyn, we are convinced that a children's museum program is always a positive step toward crime prevention in youth. We also know that many a hobby begun by a child in the museum may become his adult vocation. We hope that this motion picture, 'The Child Explores His World,' is going to encourage many other communities to develop museum programs for children and to realize that such work can be started at very little expense, once enthusiasm for it has been aroused."

Lady to a Small Boy

No, I have never owned a warty frog,
Nor craved the friendship of a grunting hog;
Nor can I say it had occurred to me
To take as pet a cockroach or a flea;
You think this social world well lost, for sake
Of evil-smelling goat or spotted snake;
Tomorrow some high new adventure lies
Within a realm of mice and eels and flies;
Ah me—I understand too late how flat
Is life with nothing but a Persian cat.

—*Katharine Eubanks*

Visual Education in Modern Education

GARDNER L. HART

How motion pictures, lantern slides, stereographs and dioramas are being used today to stimulate interest in and develop understanding of the physical, natural and social worlds. Mr. Hart is supervisor of visual education, Oakland Public Schools, California.

NO LONGER is the teacher limited to the four walls of her classroom, for she may now take her pupils to any place in the world by using visual materials. Thus, they may have the vicarious experience of living in the damp hot lands of the tropics, or in the dry waste lands of the desert, or in the high cold regions of perpetual snow. They may compare the way people live in our large crowded cities with the way other people live in the country.

With modern visual materials we can make history live. The results of the Revolutionary War; the moulding of our country into a great nation; the making of the Constitution and outstanding historical figures may again be brought to life. Seeing how people live in other countries leads to better understanding of them and their problems.

MOTION PICTURES

The motion picture can, by the use of time-lapse photography, quickly and efficiently show certain processes in the scientific field which, in nature, occur too slowly to be studied easily. Such a picture can show how a living plant pushes its way through the ground, grows leaves, produces flowers and pollen, then withers and dies. In this way the life cycle of the plant, which in nature requires a great deal of time, may be seen in a few seconds.

It is also possible with the motion picture camera to slow down action which occurs too fast for study. This is especially helpful in studying how a bird flies from one flower to another gathering nectar. Physical education teachers may thus slow down pictures of games, rhythmics, and dances, so that the movements and patterns may be studied and analyzed carefully.

Animated motion pictures are very helpful in explaining material which can be shown by action drawings. In the primary grades, children may be shown the proper way to cross the street, while in the upper grades, intricate processes of manufacture and complicated machinery may be explained easily. Such a series of drawings may show the mixing of the different raw materials which are used to make bread, or how a ship is raised or lowered in a canal lock from one level to another. When action plays an important part in the presentation, there is no substitute for a motion picture.

The addition of sound to motion picture films has made it possible to bring into the classroom instructional materials formerly unavailable. Children who are studying life on a farm may now not only see the various animals, but hear the sounds they make as well. They become better acquainted with the farmer, for they hear him talking to his horses while he feeds and cares for them. They hear him call the cows from the pasture and hear the moo of the cows as they enter the barn.

In the upper grades, the study of acoustics, for example, was practically impossible before the development of sound motion pictures. A science teacher may now demonstrate all the fundamentals of sound—how it is formed, pitch, tone quality, reverberation, and refraction. This complete unit on sound may be presented in a twenty-minute sound film.

located the large cities. Here the climate is cooler, and different products are produced. The third section shows the civilization in the higher altitude where the climate is cold and the mountain peaks are covered with snow. This film, requiring only fifteen minutes to show, gives the children a large amount of general information which will assist them in later studies.

Song slide used in community singing.

Sound films are also available in the field of music. Through this medium, a full symphony orchestra may be brought into the classroom, enabling children to hear the various instruments as they see them played by expert musicians. Other sound films are being used extensively in social studies and language instruction.

The motion picture film makes such a real and dramatic appeal that the material presented is not only remembered a great deal longer than the same type of material that is read, but also is given to the pupil in much less time.

Although sound motion picture films are being used extensively in modern education, they have not replaced the silent film which is often used to introduce or conclude a subject. For example, a motion picture film of Mexico is divided into three general sections. First, the children see the low hot lands, the kinds of products raised there, and how the people live. The second section shows the middle altitude belt in which are

The same type of film may be shown at the end of the unit, thus giving the subject unity, continuity, and a strong conclusion. Should the film be shown during the study, rather than before or after, the sections could be projected separately. After showing the low hot land section the film could be stopped and no more shown until that phase of the study had been completed. Then the first section could be re-shown in review, and continued on through the second and third sections.

Lantern Slides

Motion picture films, although very important, have not replaced other types of visual materials. The lantern slide is universally used in modern instruction. Modern projectors make it possible to project lantern slides in any classroom without the use of dark curtains. The picture is large enough

so that the attention of a large class can be directed to the specific material presented. This large projected picture gives the teacher and students definite information upon which a fine lesson may be based. Problems to be solved may be suggested by the teacher, with the class working out the answers, using the slide as the basis for discussion.

Beginning reading can be taught effectively with lantern slides. A slide, which contains objects familiar to the children, is projected on the blackboard. The teacher may then write the names of these objects with ordinary chalk directly on the picture. Thus, the child sees the object and the name which stands for the object. This method facilities the association of a name with the object. In five weeks the average class, by using lantern slides, may cover the same amount of material formerly requiring twenty weeks.

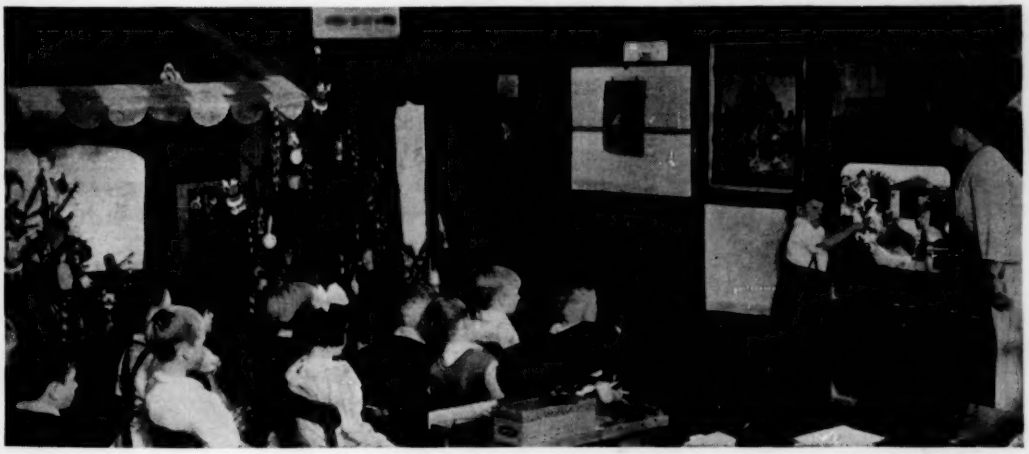
Lantern slides may also be made by teachers and children to illustrate specific types of materials which they work out themselves in conjunction with the units being studied. Sketches may be made of historical scenes; diagrams and charts may be drawn, or the words for group singing may be typed on a special kind of cellophane.

Small photographs, post cards, illustrations, drawings, diagrams, as well as pages from magazines and books, may be shown by using an opaque projector. It is a simple machine which, when used in a dark room, will enlarge any opaque material, and project it on a screen sufficiently large so that it may be used for group discussions. It is also possible to use this same projector for enlarging original drawings made by students. An area six inches square is the maximum size which may be shown at any one time.

Larger material may be used in the opaque projector by showing it in sections. Each student makes drawings illustrating some particular phase of the unit being studied, and prepares a short descriptive paragraph to accompany the drawings. After the drawings are all completed they are pasted in order on a long piece of wrapping paper which may be folded for convenience. The complete story with illustrations and descriptions may then be projected for another class or for an assembly program.

Stereographs and Dioramas

In the kindergarten and primary grades it is often difficult for the children to see clearly the third dimension in a flat picture. The stereograph, which consists of two flat photographs taken with a special camera equipped with two lenses separated the ap-



Using lantern slides in teaching beginning reading.

proximate distance between two eyes, eliminates this difficulty. Therefore, when the stereograph is viewed through the stereoscope, the image appears to have depth.

Stereographs are used for individual study. A carefully selected group of stereographs, illustrating material being studied, is placed on a table with several stereoscopes and during a free period children may go to the table and look over the material at their leisure.

Charts and graphs are very useful in presenting graphically material on health, for example. Drawings in which young children are interested are brightly colored, each having a central theme such as, "Care of the Teeth," "Proper Way of Brushing the Teeth," or "Proper Foods."

Wall panels consist of pictorial material organized around a specific educational unit. They are not only attractive in appearance, but they also illustrate important phases of a unit of work, such as various animals of the farm, the work the farmer does, and the products he raises. Others show how people live in various countries, the way they dress, the types of houses in which they live, their methods of transportation, and also suggest some of the ways in which they earn a living. Some panels of a decorative nature show the seasons of the year and children at play.

If a teacher wishes to review a topic and to use a new type of material, she may use stillfilms or filmslides in place of a set of lantern slides. However, in the case of this material, each picture is described by well-worded introductory remarks which appear on the screen as titles preceding the picture. The pupils may read the printed material and then discuss the content of the picture which follows. These films are organized in specific units, containing from fifteen to thirty pictures with the same number of titles. They are also well illustrated with maps and diagrams. Many of these films are especially made for use in primary grades.

In recent years, tremendous advance has been made in the use of third-dimension models and dioramas. Models of land transportation, water transportation, and air transportation present a most interesting unit. Children may compare the bulky hull of early sailing ships with the beautiful curved lines of our modern steamers, or the early designed Wright plane with the graceful China Clipper. They may see in other models the stages of the development of the railroad from the De Witt-Clinton train to the present streamlined Diesel electric train.

Interest in the handcraft work of various countries may be heightened by exhibits of typical materials which have been made by natives. Dolls dressed in costumes of the various countries may be used in studying children of many lands. Working scientific models are also of tremendous value. A miniature ship, for example, may be raised from one level to another in a model canal lock.

Modern visual departments are supplying schools not only with all of these various types of materials and projectors, but also with special equipment which is necessary to carry on the present-day instructional program. This equipment consists of chests of tools for primary school use, special phonograph records for children, electrical phonographs, and portable radios.

In a rapidly progressing age, modern teachers must use modern tools in teaching modern children to understand the physical, natural and social world in which they live.

There is unbelief—
Whoever plants a seed beneath the sod
And waits to see it push away the clod
Believes in God.—*Bulwer Lytton*

Let's Experiment

LOFTON V. BURGE

Young children, and old ones, like to experiment. The fascination lies in the uncertainty of what will happen and curiosity as to why it does happen. Mr. Burge, Western State Teachers College, Kalamazoo, Michigan, discusses four values to be derived from experimentation in elementary science.

NO PHASE of the elementary science program is more interesting to children than experimentation. A bar magnet and a few nails readily interest them in the subject of electricity and magnetism. A few seeds planted in various kinds of soil and placed under different climatic conditions serve as a motivating force for studying factors influencing seed germination and plant growth. A tumbler of water covered with a sheet of ordinary writing paper and inverted creates interest in studying pressure and other properties of air. A flash light and two balls of different sizes for illustrating an eclipse of the moon may be used for furthering interest in the study of astronomy.

Similarly, in all phases of the elementary science program, easy experiments may be utilized in verifying simple principles of science which are of the subject matter level of the child. Pupils may perform a number of isolated experiments, however, with little or no real value measured in terms of learning and child growth. The experiments are usually "fun" to the children, but the aim should not be that of mere entertainment.

CHALLENGES THINKING

Experimentation is of value for the utilization of the immediate interests of the children and for the acquisition of specific knowledge. The paramount value of the experiment, however, is the challenge it offers for thinking and applying acquired knowledge to problem situations; the provision it makes for socialization through meeting the needs of the individual; the stimulus it gives to independent reading; and the necessity it requires for teacher-pupil cooperation.

The questions asked by a group of children working on an experiment are indicative of their thinking. For example, some time ago the writer observed a group working with a simple electromagnet. Such questions were asked: "Does the wire wrapped around the iron core have to be insulated? Will an electromagnet lift things from water? How can an electromagnet be made stronger?" The class might have learned from their own reading, or from a demonstration by the teacher, that one method of making a magnet is by passing an electric current around an iron core, but through their interest in the manipulation of materials, they were challenged to think in terms of problems other than the one simple principle.

Another example of thinking growing out of experimentation was evidenced through a fourth grade's application of known facts to the solution of a new problem. Before being confronted with the problem of placing a peeled hardboiled egg in a quart milk bottle, the children had performed experiments showing that air is everywhere; that air exerts pressure; that air is necessary for burning; that the process of burning takes something from the air. The pupils were asked to think how the egg could be placed in the bottle. As might be expected, one child answered, "Give it a push." After they were told that the egg must not be touched, such methods as blowing on the egg, turning an empty glass over it, or pouring water on it, were suggested. When each child had tested his method and found it insufficient, one member of the group

suggested burning something in the bottle before placing the egg on it. This solution proved to be a correct one.

Each suggestion involved the use of previously learned knowledge. The idea of blowing on the egg was to create more pressure on the outside than on the inside of the bottle. The child who suggested turning an empty glass over the egg remembered an experiment in which a glass was inverted over a floating cork causing it to sink. The object of pouring water on the egg was to create extra pressure since water displaces air. The child who thought of burning something in the bottle remembered that the process of burning takes something from the air and that water rose in the jar inverted over a burning candle floating on a cork. This illustration emphasizes the need for breaking the units of subject matter in science into principles which are within the comprehensive range of the child.

Contributes to Social Development

To develop socially, a child must have experience in living and working with a group. The experiment presents an informal situation in which pupils are interested in a common problem, and to which each child is able to make some contribution. The different phases of experimentation which provide this wide range of abilities are: formulating a problem or topic to be studied, selecting principles of science to be tested, securing the necessary materials, devising and manipulating apparatus and evaluating the outcomes of the work in terms of present results and past experiences or previously acquired knowledge.

Some children may be able to do no more than aid in securing materials to be used. The pupil who has difficulty competing in his regular class work may have a wider knowledge of source materials in the environment than other members of his group. Other children who do not have the ability to participate very extensively in phases of the work requiring reflective thinking may be gifted in making and manipulating apparatus. There are children in both these groups who may never develop further than the types of work they can do for the most part with their hands. It is very essential, however, that this type of child learn that there are contributions he can make to group work and that he has a place in society.

For the slow child the formation of favorable attitudes is far more important than the acquisition of specific facts. Furthermore, the experiment presents an additional challenge to the bright child. Under proper guidance it offers him a situation in which not only the present outcomes of the problems may be observed but also one in which new problems may be recognized and relationships between the new and old experiences may be formulated.

Expands Reading Interests and Skills

An analysis of the cause of failures in the elementary schools shows the inability to read as a primary factor. Most failures in arithmetic are caused by children's inability to read and interpret problems rather than the inability to perform the skills involved in adding, subtracting, multiplying, and dividing whole numbers and fractions. Similarly, the greatest difficulty teachers encounter in teaching social studies may be attributed to the pupils' failure to read comprehendingly. After a child has developed a degree of proficiency in the mechanics of reading, his greatest gain is derived from reading extensively materials in which he has a felt need and a real interest. If children become interested in a specific topic in science, they need relatively no other motivation to do independent reading than their own desire for information.

Children's books in elementary science are effective in that they do not permit teaching the subject just as another content course. There is no single text book in science that can be used effectively, even with children of equal ability. When the experiment pre-

sents a difficulty to be overcome or creates a desire for further knowledge, children should be able to read from a multiplicity of books within their comprehensive range, rather than from materials designed for a particular grade. Extensive reading materials of this type not only improve the child's ability to read, but they also add to his general fund of knowledge which may be applicable to other subject matter fields.

Develops Teacher-Pupil Cooperation

Finally, the experiment requires a high degree of teacher-pupil cooperation. Most elementary teachers feel that their knowledge of science is inadequate to enable them to teach the subject effectively to children. In terms of answering children's questions authoritatively, this statement may be true. The teacher must remember, however, that if a child is to develop scientific attitudes and form habits of basing judgment upon fact rather than upon opinion, he must have real experiences in planning, organizing data, weighing facts, and actually solving the problem set up.

Knowledge in any field is important, but it is equally important that teachers be able to work informally with children. Even the efficient teacher with a wide knowledge of science will not answer directly the questions that her pupils ask, but she will guide them to find out the answers for themselves. She will not suggest a specific experiment for solving any problem before the children have had an opportunity to draw upon their experiences and to suggest means for finding the answers. Although the suggested method may not prove adequate to answer their question, the children will gain valuable practice in evaluating results, and they may be challenged to think of other ways in which the problem might be tested. It should be remembered that the research worker in science often tries many possible means before he finds the satisfactory solution.

The wise teacher will not hesitate to say, "I do not know but I should like to find out. Let's think how we could go about answering this question." Such a teacher, although she may have had very little training in science, can bring far more to her pupils in the development of scientific attitudes and reflective thinking than the teacher who uses her knowledge to answer questions formally with little emphasis on child thinking.

The resourceful teacher who understands children, their experiences and interests, and feels that science has a place in the elementary curriculum will find in the experiment a means by which both she and her pupils may help each other to grow mentally, develop socially, and work cooperatively.

The School Garden

Out of the soil we shall dig our food
Fresh with the vitamins of the sun,
And crisp with the water of the earth.
The feelings we gather from a garden
Are lost in the pages of a book:
No words can express the smell of the ground,
No picture the growth of a seed.—*Alice Gibson Heap*

A Golden Anniversary

Miss Lucy Wheelock

IN HONOR of Miss Lucy Wheelock and the fiftieth anniversary of the founding of the Lucy Wheelock School, more than five hundred friends and alumnæ gave a dinner January 28, 1939, in the Somerset Hotel, at Boston. Twelve outstanding persons, including H. Styles Bridges, U. S. Senator from New Hampshire; Payson Smith, professor at Harvard Graduate School of Education; Julius Warren, superintendent of schools at Newton, Massachusetts; and Henry W. Holmes, dean of the Harvard Graduate School of Education, paid tribute to Miss Wheelock and her pioneer work in kindergarten education. Rollo G. Reynolds, principal of Horace Mann School, New York City, who was the principal speaker, closed his address with this tribute to Miss Wheelock:

"You must look back with happiness and pride on the years that have passed since you embarked upon your great adventure—a school to train teachers of little children. To you for a half century they have come from every quarter of the land, these fine and eager girls. They have lived and worked together in the kindly, rich and lovely atmosphere which has ever pervaded this grand old school which you created, and into every activity of which your personality has been stamped indelibly.

"Who can measure the influence which they have exerted as back they have gone, social workers, teachers, and mothers? You have created 'things,' to paraphrase Milton, 'so fashioned that men will not willingly let them die.' Things more lasting than wood and stone—ideas, love, kindliness, little happy children. In them shall you go on—they are your monument."

Childhood Education joins countless others in offering congratulations to Miss Wheelock, and in sending best wishes for the successful continuation of her work both through the Wheelock School and the Wheelock Child Center, given to Miss Wheelock by the Wheelock Alumnæ Association as a pleasant reminder of her fiftieth anniversary.—*F. M. M.*

Across the Editor's Desk

Concerning the May Issue

THE May issue of *Childhood Education* will not reach subscribers until after May 10. We shall delay publication of this issue so that addresses and reports of the A.C.E. Atlanta Convention may be included. We have found that publishing convention accounts in the last issue for the year is more satisfactory than holding them over for the first issue of the new year. We hope that our subscribers will approve of this plan and that they will not be inconvenienced by the later mailing date.

Comments about This Year's Issues

NEVER before has the Headquarters Office received so many comments about the contents of *Childhood Education* as it has this year. The comments have been favorable and unfavorable which the Editor considers a healthy sign, both for *Childhood Education* and its readers.

The most popular issue was December, 1938. The fact that it contained many practical suggestions, that it was a cooperative venture to which more than seventy persons contributed, and that the material was presented in symposium form probably accounts for its popularity. The comment made by one enthusiastic reader perhaps summarizes the general opinion: "It is so good that I have to have my very own copy and not depend upon borrowing the library copy."

A prominent school superintendent described the January, 1939, issue as being "the best issue of any educational publication it has been my privilege to read for a very long time." From Lawrence, Kansas, came this note: "Every word of the January issue is excellent. I only wish all primary teachers would read the splendid articles and try to practice what they can learn so enjoyably." In ordering extra copies of the January issue, a kindergarten-primary supervisor wrote: "Just a word to say how much I like the January issue. The subject of this number is one which is most pertinent. The articles show our stand—one of demanding first-hand real experiences in acquiring concepts and at the same time demanding opportunities for tool subjects to function better through recognizing the laws of learning involved."

Many readers have expressed enthusiasm for articles appearing in other issues and have ordered extra copies or reprints of the favored article. Still others have expressed the wish that a certain contributor be invited to write a follow-up article to one recently published, that a particular author had been given more space in which to expand his excellent ideas, or that an opposing point of view might have been included in the same issue.

All these comments help the Editorial Board in planning future issues. *Childhood Education* is your magazine and should contain the material that will be of the greatest help to you. The surest way to get this help is to let us know wherein the content meets or fails to meet your needs. Plans for next year's issues will be announced in the May issue. Let us know your opinion concerning them.

American Nature Study Society and the A.C.E.

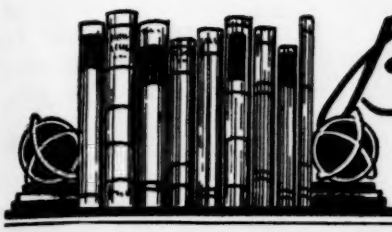
LAST DECEMBER, Mary E. Leeper, executive secretary of the A.C.E., spoke before the American Nature Study Society at their meeting in Richmond, Virginia. Part of Miss Leeper's address contained suggestions as to what the scientists could do to help teachers of young children. Here are some of her suggestions: Give us more authentic nature books for children. Contribute short, practical articles on nature study which may be used on A.C.E. pages in state education journals. Be friends with us, not as scientists with teachers, but as teachers with teachers. Attend teachers' conferences and invite teachers to attend yours. In conclusion, she said, "The Association for Childhood Education has contacts with many teachers. You, the members of the American Nature Society, have the information that is needed to help teachers enjoy nature enthusiastically. It is my hope that through the cooperation of both organizations children may live more satisfying, useful, and enjoyable lives, both now as children and later as adults."

The A.C.E. in Atlanta
April 10–14, 1939

MR. SUTTON, superintendent of schools, and some of these boys and girls will help to welcome the A.C.E. to Atlanta for the Forty-sixth Annual Convention. We hope, too, that the dogwood will be in full bloom to add a festive air to what promises to be one of the largest and best conventions the A.C.E. has ever had.

Seven study classes under the direction of Jean Betzner, with E. T. McSwain of Northwestern University as coordinator and special speaker, will discuss the effects on child development of housing and equipment; community resources; administration and management in home, school and community; religious and social ideals; the kind and range of human relationships; the modes of communication; and programs of work and play as planned in school. These study classes will be divided into discussion, studio, and field groups with more than seventy persons to direct and to coordinate their many activities.

Special reporters have been invited to prepare descriptions of convention activities for the readers of *Childhood Education*. If you cannot join us in Atlanta, you will be interested in reading these descriptions which will be published in the May issue.



Book... REVIEWS

Editor, **ALICE TEMPLE**

THE VOCABULARIES AND CONTENTS OF ELEMENTARY SCHOOL READERS. *By John A. Hockett. Sacramento: State of California Department of Education Bulletin No. 3, 1938. Pp. viii+104.*

Modern programs of reading instruction place special emphasis on the need for a wide variety of interesting material adapted to the reading vocabularies of children of different age levels and related to the numerous subjects and activities of the enriched curriculum of the present day. There is a large quantity of such material to be found in the many series of readers now on the market but some means of finding it readily has been needed. The study reported in Mr. Hockett's monograph meets this need.

According to the author, the study was undertaken with two specific purposes in mind: first, "to present detailed comparative evidence on the relative vocabulary burden and difficulty of a large number of commonly used readers in the primary grades, so that the various books may be selected and used more wisely and effectively," and second, "to help teachers guide the reading of children along various lines of interest or need" (p. v).

Part One of the pamphlet presents the results of a vocabulary analysis of fifty pre-primers, forty-two primers, thirty-seven first readers and twenty-nine second readers. Such data as the following are recorded in tabular form: the total number of words, the number of different words, and the average repetition of words in each book; the overlapping of vocabularies of the primers and readers; comparison of vocabularies of first and second readers with the revised Gates word list.

Part Two of the study contains a "classified index of the contents of two hundred eighteen school readers ranging in difficulty from primers to sixth readers" (p. 39). This index is the outgrowth of an analysis of each separate book and a classification of every story, poem, or other item therein according to its subject matter. A composite list of topics for each grade level was then made and the items from each book entered in its appropriate place. This index is similar to Eloise Rue's *Subject Index to Readers* reviewed in the September, 1938, issue of this magazine. It is more extensive, however, including readers for the upper as well as the lower grades and the classification of material is different in the two books. Mr. Hockett believes that they supplement rather than duplicate each other.

All those who use this index will realize that the author's chief aims have been achieved. The report will be an invaluable aid in the selection of the best books and in enabling teachers to find suitable reading material for their classes, both from the standpoint of difficulty and subject matter.—*A. T.*

RHYTHMS FOR CHILDREN. *By Mary S. Shafer. Music by Mary Morgan Mosher. New York: A. S. Barnes and Company, 1938. Pp. 48. $1.25.*

Do you know any children who like to run, jump and skip, or any who like to play that they are ponies, seals, witches or giants? If you do, here's a book for them and you. The book has resulted from the collaboration of Miss Shafer and Mrs. Mosher over a number of years at the Horace Mann School in New York City. Practically all of the rhythms were worked out by the children in the first and second grades of the school, assisted by directions from the instructor. The music is all original and was improvised by the pianist at the time the rhythm originated. All directions are compact and complete, and the music suits the action admirably.

Besides the animal rhythms and the usual skips and runs, the book contains music and movement appropriate to those prominent ob-

jects in modern life: the motorcycle cop, the airplane and the zeppelin. There are forty-four rhythms in all. The book is a small, convenient size with the new-type plastic binding which enables one to open it flat at any page. You will need a good pianist.—*Alton O'Steen, Ohio State University.*

THE ACTIVITY CONCEPT: AN INTERPRETATION. *By Lois Coffey Mossman. New York: The Macmillan Company, 1938. Pp. xvii + 197. $1.50.*

Dr. Mossman has been a student of the activity movement for many years. Her little book will be widely read and with much interest, especially by the hundreds of teachers who have studied with her and thus can read between the lines of her all too brief treatment.

Professor Kilpatrick in his introduction says that the task with which the book concerns itself is "to give actual guidance and help alike to prospective teachers and to active practitioners as they study the activity concept to see what it means, to catch a deeper vision of how education might go on, to learn how better to follow the vision." (p. xvi) Such help is given the prospective teacher in the first chapter in which she is made fully aware of the numerous problems involved in planning for the opening day of school and, by means of pertinent questions and suggestions, is stimulated to solve many of them for herself.

The second chapter, too, seems to be addressed primarily to the student teacher. It deals simply and effectively with the marked changes which have taken place in social life since the early days of the American public school which have demanded correspondingly successive changes in curriculum and procedures.

In the chapters which follow, Dr. Mossman presents her interpretation of certain aspects of the activity program under such titles as "Living, Learning and Becoming," "The Emerging Curriculum," "Developing Abilities," and "Becoming a Self Through Group Life." In the treatment of abilities the importance of acquiring mastery of the three Rs is not minimized but the author maintains that given a vital program of activities which, from time to time, calls for the use of a certain skill in order that the enterprise may go forward, children may voluntarily give themselves the drill needed to acquire it. "With such a definite attack by the learner in the effort to master a skill it seems to be indicated that much less time for learning will be needed." (pp. 76, 77) This point of view concerning the acquisition of the social skills is, of course, a highly controversial one.

Throughout these several chapters there is emphasis on the fact, both in statement of theory and through suggested procedures, that learning takes place through experience involving interaction between the child as doer and an ever-changing environment, and that democratic group life is essential to the development of tolerant and responsible individuals.

One cannot read this little book without being conscious of Dr. Mossman's sympathetic understanding of children and her eagerness that no effort be spared to give them the best possible guidance toward the realization of the "good life." Not the least important part of this contribution to the literature of the field is Professor Kilpatrick's introduction.—*Adelaide M. Ayer, director of education, Milwaukee State Teachers College.*

AN EVALUATION OF MANUSCRIPT WRITING. *By Frank N. Freeman. Columbus, Ohio: The Zaner-Bloser Company, 1938.*

This pamphlet by an authority in the teaching of handwriting is a reprint of an article published in *The Elementary School Journal,* February 1936. As a result of his study of manuscript vs. cursive writing Dr. Freeman presents the following conclusions:

1. Historical evidence, experiment, practice, and opinion indicate that cursive writing is better for the upper grades and for adult writing.

2. Experiment, the trend of practice, and the opinion of those who have used it indicate that manuscript writing is preferable for beginners.

3. The change should be made late enough to secure the advantages of manuscript writing as an initial style and early enough to minimize the difficulty of making the change. In the opinion of the writer, the point at which the change can probably best be made is the second half of grade II.

Persons interested in introducing manuscript writing in the first two grades will find ample information to substantiate their belief in this form of handwriting.

BOOKS FOR CHILDREN

***Editor,* MAY HILL ARBUTHNOT**

DANCING TOM. *Elizabeth Coatsworth. Pictures by Grace Paull. New York: The Macmillan Company, 1938. Unpaged. $1.00.*

In the past, Elizabeth Coatsworth has turned her distinguished pen to writing for older children, both stories and poetry. Now she gives us a delightful story called *Dancing Tom,* for children seven to ten years old.

Tom is a dancing pig carried on a flat boat down the Mississippi by a young pioneer family. Caleb laughed with everyone else when the little pig danced but was firmly of the opinion that jigging or no jigging, Tom would end as bacon. Jenny, Caleb's wife, who trained Tom and loved him, refused to face this horrid possibility. Meanwhile, the flat boat floated on through various episodes and Tom grew apace. The happy ending is due, not to Tom's dancing, but to his handy way of killing rattlesnakes and thereby saving John, the baby.

Miss Coatsworth's prose, even in this simple tale, is as lovely as ever and Grace Paull's drawings add much to this charming pioneer story.

THE QUEEN'S EARRINGS. Or, How the Jenkenson Family Went to the Coronation. *By Veronica Hutchinson. Illustrated by Louise Mansfield. New York: G. P. Putnam's Sons, 1938. Unpaged. $1.50.*

Miss Hutchinson, who is widely known for her excellent anthologies of stories and poems, vouches for the fact that this story is supposed to be true.

Imagine having a father who earns his living by piercing ladies' ears so that they can wear old-fashioned earrings. Then, imagine having your father called to Buckingham Palace to pierce the *queen's* ears just three days before the Coronation. Of course, the young Jenkensons nearly burst with excitement, little dreaming that more and higher adventures were in store for them. How Mrs. Jenkenson and the four Jenkenson children actually found themselves in Buckingham Palace on the day of the Coronation, and what happened to them there, is thrillingly related by Miss Hutchinson.

Children old enough to have followed the Coronation ceremonies with interest will revel in this story. The book is charmingly illustrated and will make a unique memento of that great pageant, the English Coronation.

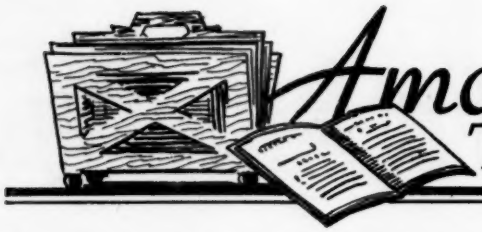
EPAMINONDAS AND HIS AUNTIE. *By Sara Cone Bryant. Illustrated by Inez Hogan. New York: Houghton Mifflin Company, 1938. Pp. 16. $.75.*

It is indeed a joy to find our old friend Epaminondas in a new and gaily illustrated edition. Here he is, a worthy brother of Nicodemus, brought to life by Nicodemus' creator, Inez Hogan. Not that Epaminondas was not always very much alive on his own account, only it is fun to *see* him, as well as hear him, clutching his gold cake in his hand, butter dripping down his chin, cooling puppy dog in the water and finally stepping "right in the middle" of every mince pie. No child, no school, no home should be so underprivileged as to miss the unfailing chuckles that accompany Epaminondas' progress from one blunder to another.

EAST OF THE SUN AND WEST OF THE MOON. *Edited from the Dasent translation and illustrated with six etchings and sixteen wash drawings by Ingri and Edgar Parin d'Aulaire. New York: The Viking Press, 1938. Pp. 188. $3.50.*

What an inspiration to have the d'Aulaires edit and illustrate a new volume of these choice old tales and then have the book issued by the Viking Press, with the beauty of format that distinguishes so many of the fine things that come from May Massee's hand. This is a rare book, both in the selection of the tales and the strange, imaginative quality of the illustrations. A collector's item both as literature and art.

There are twenty-one stories and not more than a third of these are in the familiar edition by Mrs. Gudrun Thorne-Thomsen. This means fresh material for the story teller who cannot get the original Dasent collections, and a treasure of delight for every child who discovers this book. Both the language and the illustrations have the vigorous, unsophisticated quality children like.



Among... THE MAGAZINES

THE IQ: A PROBLEM IN SOCIAL CONSTRUCTION. By Beth L. Wellman and George D. Stoddard. *The Social Frontier,* February, 1939, 5:151-152.

The idea that a child's intelligence can change through educational influences appears to be shocking and to many, impossible. But recent research findings through extensive studies carried on over a period of years at the Iowa Child Welfare Research Station reveal large changes in IQ in both upward and downward directions. They reveal that, under favorable circumstances, children actually move from average to so-called "genius" levels, or, under very unfavorable circumstances, from average intelligence to feeble-mindedness.

The social implications of these newer findings on the extent of change in mental ability are obvious. Through the development and conservation of human talent, society could benefit enormously. The human satisfactions arising from a more intelligent appreciation of one's surroundings could increase. We shall be interested in further research in this particularly challenging field.

MEASURING SOCIAL PERFORMANCE FACTORS IN ACTIVITY AND CONTROL SCHOOLS OF NEW YORK CITY. By J. W. Wrightstone, J. Rechetnick, W. A. McCall, and J. J. Loftus. *Teachers College Record,* February, 1939, 40:423-432.

This is the fifth of a series of articles in The Record describing the inauguration and appraisal of an activity program in a group of elementary schools in the city of New York. "A summary of the data," say the authors, "indicates that the activity classes are superior to the non-activity classes in quality of cooperative activities. . . . Critical activities (by children) occur more often and are superior in quality in the activity programs."

Great care should be exerted in producing and judging the so-called activity program. Bringing about an activity program is a long slow process. It is to be hoped, however, that the mere fact that the behavior of children is given consideration in terms of their initiative and their criticisms, is a good sign that some day we may have normal, natural child activity.

A SECOND GRADE ACTIVITY WITH SOIL. By Doris Davis Klaussen, *Science Education,* February 1939, 22:300-301.

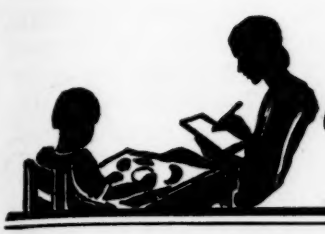
Up-to-date teachers have genuine reason for gratitude over the increasing number of articles written about experiments in science in the elementary school. It does not require long observation of boys and girls to discover that their chief curiosities lie in this realm.

This description of the experiences of a group of second grade boys and girls in Battle Creek, Michigan, is very interesting. One wonders why the activity did not begin with a situation where the boys and girls making a garden, or planting seeds indoors, discovered that there were different soils and that these soils had different effects on their growing things. This would seem to be the ideal way to bring about interest in and determination to learn more about soil.

TEACHING AIDS FOR TEACHERS. By Mary Dabney Davis. *School Life,* February, 1939, 24:144-147.

Where may authoritative teaching aids be found at little or no cost? Miss Davis lists nine government agencies with their particular bureaus and departments and fifty-two professional and noncommercial organizations from which these teaching aids may be obtained. Reprints of this article are available upon request to the Office of Education, U. S. Department of the Interior, Washington, D.C.

Editor, JOHN A. HOCKETT



Research.. ABSTRACTS

A STUDY OF THE POSSIBILITIES OF GRAPHS AS A MEANS OF INSTRUCTION IN THE FIRST FOUR GRADES OF THE ELEMENTARY SCHOOL. *By Ruth G. Strickland. New York: Teachers College, Columbia University, Contributions to Education No. 745, 1938. 172 pp.*

New types of picture graphs have been used with marked effectiveness in recent books for adults. This investigation reports an exploratory study of the possibilities of using graphs of various types with children in the primary school. Six types of graphs were used, as follows: (1) the developmental picture chart, consisting of a series of pictures arranged to show the historical development of some subject; (2) the unit pictograph, which shows comparative amounts of two quantities or different amounts of a changing quantity by means of a larger or smaller number of suggestive symbols; (3) the bar graph with appropriate figures to show different amounts of changing quantities; (4) the bar graph superimposed on a grid which is read by reference to horizontal and vertical scales; (5) the line graph superimposed on a grid; (6) the circle graph in which the relative parts of a total quantity are shown by appropriate sectors of a circle.

A six weeks' experiment involved 461 children in 16 classes in five schools. The children were distributed in grades one to four. Units of work considered appropriate for each grade were carried on. Travel was selected for grade one, transportation for grade two, communication for grade three, and light, heat, and power for grade four.

The first phase of the unit, which involved no use of graphs, was carried on during the first two weeks. During the third week, pupils were given their first contact with graphs in a teaching-test situation. Assistants examined each child individually on the six types of graphs. If the child could not answer questions which involved interpretation of the graph, he was given successive increments of help until he could do so. The fourth and fifth weeks were devoted to the second phase of work on the unit, in which the teacher used graphs that enriched and illuminated the work. At least 150 minutes were devoted to informal discussions relating to the work. Additional time was devoted to reading for information and pleasure, and to other activities. During the sixth week, a final test was given, individually, to the first-grade children and in small groups to the others. This was a mimeographed multiple-choice test designed to measure the child's ability to read graphs, see relationships, and give simple interpretations.

The author concludes that the unit pictograph and the developmental picture chart are suitable for the first grade. First-grade children of a mental age of 90 months were able to read the simple bar graph. The circle graph and the line graph were judged too difficult for grade one following the short period of instruction. All six graphs were judged suitable for grade two, the picture chart and circle graph being considered most useful. All six graphs were considered suitable for grade three. Three new elements were introduced into the graphs used for the fourth grade: a divided bar, a combination of bars and lines, and a unit which represented a per cent of a whole. All types of graphs were judged appropriate for this level. The author gives mental ages for the various grades at which children successfully answered various types of questions relating to graphs. She finds no evidence that differences in sex or socio-economic background are significant factors in successful interpretation of graphs.

Interest of children in graphs presenting material which related to activities being carried on in their classrooms was indicated by remarks

made by the children and teachers. The author reaches the conclusion that graphs which are appropriately designed for children and that are associated with their interests can be introduced into the curriculum at an earlier level than is now done.

CHILDREN'S CHOICES IN POETRY IN THE FIRST GRADE. *By Ruth E. Bradshaw. The Elementary English Review, May 1937, 14:168-176, 188.*

This study includes an analysis of the individual choices of poems of more than five hundred children in twenty-six first grades in representative towns of Illinois and Iowa. A list of 215 poems was compiled from anthologies of children's poetry, courses of study, and primary readers. This list was reduced to a final group of 60 poems, divided into six classes: singing quality and rhythm; animals and nature; childhood interests and activities; rhymes and jingles; humorous poems; imaginative and fanciful poems.

In response to the question, "Do first grade children like poetry?" the author reports that more than fifty per cent of the children expressed a liking for every poem and eighty per cent of the children liked three-fourths of the poems. The correlation between teachers' ratings and children's ratings was positive but slight In the case of poems liked by ninety per cent of the children, the percentage of teachers who judged that the children would like the different poems ranged from ninety-seven to fifty-two per cent.

Funny poems ranked first as a group, their popularity being due more largely to the boys' than to the girls' choices. The author finds that when allowances are made for changes of mood, position of poems in a group, and various other factors, children are reasonably consistent in their choices. She finds also that familiarity sometimes seems to have an effect upon choices but that its effect is negligible in some instances. She finds that children like some old poems and some new poems regardless of authorship, quality as judged by adults, or source.

SOME FACTORS AFFECTING RESUMPTION OF INTERRUPTED ACTIVITIES BY PRESCHOOL CHILDREN. *By Evelyn Katz. Minneapolis: The University of Minnesota Press, Institute of Child Welfare, Monograph No. 16, 1938. Pp. v + 52.*

Six interesting tasks were presented to 177 children between the ages of four and one-half and five and one-half years. The procedure was for the experimenter to take each child individually and interest him in the task. After he had worked on it for a period of time, he was interrupted and asked to perform another task. After the interruption, he was left free to do as he pleased. In one experimental situation, the interrupted activity was the only one available. In two other situations, there were one or two other alternative activities available.

The tasks were as follows: putting together with twenty-seven blocks a model of a man similar to one placed before the child; inserting disks to complete pictures of bunches of fruit; inserting disks in a Christmas tree to represent candles; coloring balloons in a picture; sewing with yarn to outline a picture on a card; pasting colored paper eggs in an Easter basket. In the several series of experiments the child was interrupted after he had completed about 15 per cent, 50 per cent, 75 per cent, or 85 per cent of the task. When the child had completed the interrupting task which required from thirty to sixty seconds, the experimenter commended him and told him he might do what he wished and that he might leave the room to play with other children whenever he wished.

The chief findings of the experiment are as follows: When the interruption occurs near the end of the activity, resumption is less frequent than in the other cases. When alternative tasks are available, the percentage of resumption is slightly less although still very high, ranging from 86 to 93 per cent. The effect of alternative tasks upon the frequency of resumption is independent of the time of resumption. The frequency of interruption varies with the nature of the interrupted task.

MARY E. LEEPER

News . . . HERE AND THERE

New A.C.E. Branches

Montgomery Association for Childhood Education, Alabama.

Fayetteville Association for Childhood Education, Arkansas.

Decatur-DeKalb Association for Childhood Education, Georgia.

Red Oak Association for Childhood Education, Iowa.

Western Carolina Teachers College Association for Childhood Education, Cullowhee, North Carolina.

Mecklenburg County Association for Childhood Education, North Carolina.

Cheatham County Association for Childhood Education, Tennessee.

Hawaii Association for Childhood Education, Honolulu, Hawaii.

Reinstated: Lock Haven Association for Childhood Education, Pennsylvania.

Dickson County Association for Childhood Education, Tennessee.

Names Changed

The Kenosha Kindergarten Club of Kenosha, Wisconsin, announces that in the future it will be known as the Kenosha Association for Childhood Education. The state organization, Wisconsin Kindergarten-Primary Association, has become the Wisconsin Association for Childhood Education.

Listen In

Keep in touch with the meetings of the Association for Childhood Education in Atlanta, Georgia, April 10-14, by tuning in on these programs:

March 30—11:30 P.M., E.S.T. Station WSB, Atlanta
"Welcome South, Brother." Speaker, Willis A. Sutton, Superintendent of Schools, Atlanta. Courtesy of the Atlanta Convention and Visitors' Bureau.

April 10—5:45-6:00 P.M., E.S.T. Station WSB, Atlanta
Courtesy of Shorter College, Rome, Georgia.

April 11—*10:30-11:00 A.M., E.S.T. Station WAGA, Atlanta

April 11—2:00-2:30 P.M., E.S.T. NBC Blue Network
Science Everywhere. Director, Carroll Lane Fenton, Washington, D.C. The program will be devoted to flowers of the southeastern states. Atlanta children will take part.

April 12—*10:30-11:00 A.M., E.S.T. Station WAGA, Atlanta

April 12—*7:15-7:30 P.M., E.S.T. Station WAGA, Atlanta

April 13—*10:30-11:00 A.M., E.S.T. Station WAGA, Atlanta

Child Health Day

The Children's Bureau, U. S. Department of Labor, official sponsors of Child Health Day—May Day—have chosen for their 1939 slogan, "The health of the child is the power of the nation." Objectives are to bring to the attention of each community:

The importance to the child's health and development of proper food, rest, exercise, medical care, and protection against disease;

Ways in which the health of all children may be safeguarded.

For details of the 1939 Child Health Day program in your state write to the May Day chairman of your state board of health.

American Home Economics Association

The thirty-second annual meeting of the American Home Economics Association will be held in San Antonio, Texas, from June 20 to 23, 1939. This professional organization, founded in 1908, now has over 12,000 members in the United States, Puerto Rico, and Canada.

Helen Judy Bond, head of the department of household arts and science at Teachers College, Columbia University, president of the association, announces that at the general sessions "Mental Hygiene" and "Newer Aids in Home Economics Education" will be discussed. Group meetings will be arranged for members especially interested in family relationships, family economics, housing and household management, food and nutrition, and textiles and clothing.

* Courtesy of Atlanta schools. A.C.E. convention speakers and discussion group leaders will participate.

Elizabeth Rice Glassey

MRS. ROBERT M. GLASSEY, formerly Elizabeth Rice of Scranton, Pennsylvania, died at her home in Philadelphia on December 7, 1938. In the early years of the kindergarten movement in Scranton, Mrs. Glassey served as kindergarten teacher and then as supervisor of kindergartens. She was devoted to her work and was intensely interested in all things pertaining to the education and development of the child. A source of inspiration to teachers and children alike, she is sincerely mourned by her many friends in Scranton.

News Here and There

(Continued from page 379)

FAIR LABOR STANDARDS ACT

The Fair Labor Standards Act, third attempt by the Federal government to place controls upon the employment of children in interstate commerce industries, went into operation on October 24, 1938. Although two previous efforts at child-labor legislation, in 1916 and 1919, were declared unconstitutional by the United States Supreme Court, it is generally believed that the new law will withstand the test of constitutionality.

Under the child labor provisions of the Act, it is illegal to ship across state lines goods produced in any establishment in which children under sixteen years of age have been employed within thirty days prior to such shipment, or in which young people from sixteen to eighteen have been employed in any occupation found and declared hazardous by the Children's Bureau of the U. S. Department of Labor which is charged with enforcement of these provisions. Under regulations issued immediately after the law took effect the occupations completely closed to children under sixteen are mining and manufacturing, operating or helping on motor vehicles, and messenger service. Other employment is permitted outside of school hours for not more than three hours on any school day and eight hours on any other day.

FLORIDA STATE SCHOOL PROGRAM

A new state program to help teachers in adjustment of school activities to meet the needs of Florida youth has been announced by State Superintendent Colin English. Under the new program the state department of public instruction will be a central agency for recording and organizing the experiences of teachers and pupils in certain cooperating schools. The resulting material will be available to all teachers.

The procedure will be continuous, flexible to meet the changing conditions in every school community, and adaptable to any school in which teachers agree to meet special requirements and school officials will provide necessary materials. The program will begin in the spring in six communities, where teachers and patrons will conduct local surveys to determine the particular pupil and community needs which should receive most emphasis in each classroom.

AUSTRALIAN CONFERENCE

The first biennial conference of the Australian Association for Preschool Child Development was held at the University of Melbourne, January 30-February 4, 1939. Discussions were conducted on educational practices for children at the two, four, and six year levels; child health and health education; child guidance and parent education; creative art and music; records; and social service work. Among those attending were teachers and members of executive boards from the state kindergarten unions, physicians, nutritionists, welfare workers, and directors of teacher preparation institutions. Visual education material on nutrition and hygienic conditions for building child health were demonstrated.

Among the exhibits were floor plans of the

Develop Modern Reading Objectives

THE UNIT-ACTIVITY READING PROGRAM

Treats reading as a means to an enrichment of experience.

Stories based on child-interests designed to develop literary appreciation and an understanding of the world in which children live.

Develops skills systematically through a carefully controlled vocabulary; a planned word recognition and discrimination program, and exercise suggestions and supplementary material.

SILVER BURDETT COMPANY

New York Chicago Boston San Francisco

model child development centers now being constructed in the capital cities of each of the five states. The building of these centers and a five year program are being financed under the Federal Coronation Grant of $500,000. General supervision of these centers is under the Federal Education Officer, Christine M. Heinig, formerly of the Child Development Institute, Teachers College, Columbia University; and the Federal Medical Officer, F. W. Clements.

National Council of Childhood Education

Sessions of the Council held in Cleveland during the meetings of the American Association of School Administrators gave evidence of the efforts of many groups to cooperate in their work for children.

A review of current work for children was available in mimeographed form to those attending the meeting.[1] This review was based upon reports from forty-four organizations on type of service rendered children, emphasis of this year's program, plans for the coming year, and recent publications. Sixteen organizations also sent representatives to the meetings of the Council.

George D. Stoddard, in his opening address, stressed as the function of the Council "Calling Attention to the Needs of Children." He urged that members of the Council be *for* the child by being *with* him emotionally, intellectually, and physically, and that they be not a clan unto themselves but take an active part in meetings of other groups. Discussion on the problems of wholesome recreation and housing for young children were led by Leyton Carter and Walter McCornack, of Cleveland.

At the second session of the Council encouraging stories of how community agencies *are* working together for the good of children were told by Henry J. Otto, of the W. H. Kellogg Foundation, Battle Creek, Michigan; Edna N. White, Merrill-Palmer School, Detroit, Michi-

(Continued on page 384)

[1] Copies may be secured from the Association for Childhood Education, 1201 Sixteenth St. N.W., Washington, D.C. Price 15¢.

NURSERY SCHOOL EDUCATION

By JOSEPHINE C. FOSTER, Ph. D. and MARION L. MATTSON, Ph.D.

BASED on a thorough study of the research and literature dealing with the pre-school child, as well as on a long experience as principal and teacher in one of the first and most successful of the nursery schools, this book offers a comprehensive and strictly up-to-date treatment of the function, procedure, methods, and equipment of the modern nursery school.

The book gives the reader a feeling of the spirit and philosophy of the nursery school, an understanding of the abilities and characteristics of the young child, and some notion of how the nursery school can further the best development of the child.

Although scientific in its point of view and scholarly in its interpretations, the book is notable for its human interest and the simplicity of its language. For illustrative material the authors have drawn freely from their own experiences.

This is a book that is equally valuable to the student preparing to enter the nursery school field and to teachers already in service. It is filled with practical information. Twenty-one photographs accompany the text. Small 8vo, 361 pages, illustrated. Price, $2.50.

35 West 32nd St. New York **D. APPLETON-CENTURY CO.** 2126 Prairie Ave. Chicago

D. C. HEATH AND COMPANY

Are Happy to Present for Spring Publication the

WALT DISNEY STORY BOOKS

DONALD DUCK AND HIS FRIENDS
Told by Jean Ayer

MICKEY NEVER FAILS
Told by Robin Palmer

SCHOOLS DAYS IN DISNEYVILLE
Told by Caroline D. Emerson

THE LITTLE PIG'S PICNIC AND OTHER STORIES
Told by Margaret Wise Brown

HERE ARE the famous characters created by Walt Disney, in stories written by distinguished authors for children, with illustrations in color drawn especially for these books by the Walt Disney Studio. The careful editing of the texts adapts them to the highest teaching standards.

HEATH OFFICES: BOSTON · NEW YORK · CHICAGO
ATLANTA · SAN FRANCISCO · DALLAS · LONDON

In writing to advertisers, please mention CHILDHOOD EDUCATION—*it helps*